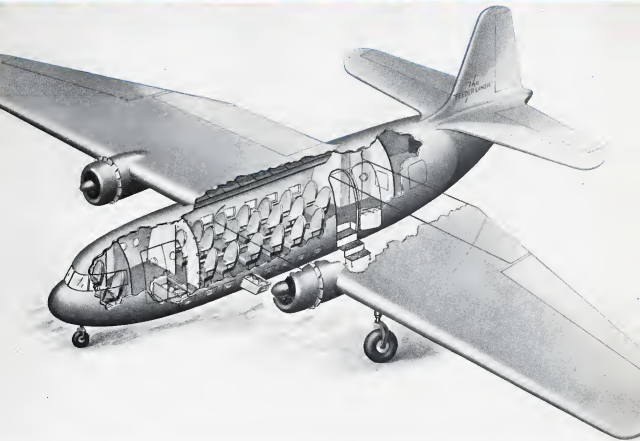


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

OCTOBER 9, 1944



FAA Proposes Plane for Local Service: *This drawing embodies principles sought by the Feeder Airlines Association, in a plane suggested by the association's technical committee for local-feeder-pickup service. Note high wing, tricycle landing gear, steps that let down when passenger door is opened, movable cargo bulkhead, and bins under floor for mail and small express packages for points enroute. Sketch was made by Don Seevers, executive director of the association. Detailed specifications are being submitted to manufacturers. (See other pictures on Page 49).*

New OCS Regulation Designed to Speed Termination

Office headed by R. H. Hinckley gives contractor chance to buy government-owned equipment in his plant or have it removed within 60 days, except when necessary for other war purposes....Page 7

Provisional Routes Prime Aim of World Air Talks

Agenda lists wide range of subjects, including establishment of transport service during transitional period, and groundwork for multilateral aviation convention.....Page 9

ACCA Council Asks Further Easing of Regulations

Geuting and Morgan present statement of policy on freedom of personal flight to Burden, Pogue and T. P. Wright; second report on specific recommendations for changes to be ready soon.....Page 16

Newest Orders for Airliners Put Backlog at \$100 Million

National reports contract for 16 Curtiss-Wright CW-20 *Commandos*, to cost \$5,000,000, and Eastern announces allocation of \$25,000,000 each on two contracts for CW-20's and DC-4's.....Page 45



Crash truck . . . ladies' size

Scouters, "manned" by women, rush to fires at air fields and quickly snuff out blazes with carbon dioxide gas from Kidde extinguishers. These midsize fire engines are lightly maneuverable, easily operated by women. And they're swift—to match the fast fire-killing effect of Kidde extinguishers.

Kidde extinguishers are used by air fields on a wide variety of mobile equipment. They're carried on full-size emergency trucks, two-wheeled trailers, jeeps, motorcycles. Kidde hand and wheeled portable extinguishers stand ready to nip smaller fires.

If you are planning fire protection for an airport—or for aircraft—Kidde's broad experience in aviation fire fighting will be valuable to you. Our engineers are at your service . . . just drop us a line!



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THE AVIATION NEWS

Washington Observer

SWPA STYMIED—Surplus War Property Administration is virtually at a standstill today. Disposal agencies are proceeding in the hands of policies previously set up, but since SWPA operates at the "policy level," no rushed actions or procurements will be forthcoming until the new three-man board is appointed—probably after elections.

ARMY'S LONG ARMS—New board isn't the only trouble SWPA is having. Some of its personnel has been borrowed from Army. They can't talk in public gatherings unless Army lets it, since they are still in uniform and wherever they said would appear to represent Army viewpoint.

SURPLUS Muddle—But SWPA troubles today are minor. The new legislation is called one of the worst major bills ever passed by Congress. It must be amended radically unless surplus disposal of that war makes the hedge-podge mess of the last one look like a perfect job. It has been difficult finding men willing to risk their reputation on the new board, and personnel down the line recognizes the men that's only too probable. Stern collars are indicated.

CONVERSION CREW C0678—Restlessness of the Army in retaining planes after allocations is costing the country's airlines thousands of dollars. Some have had conversion crews standing by, their wages largely wasted, for as long as a month after unofficial War Department advice that these planes would shortly be delivered. Expense goes even beyond conversion crews. Numerous lines have set up tentative schedules, flight crews, operations personnel and res-

ervations and passenger service agents on basis of indicated returns.

FEEDER PLANE SPECIFICATIONS—The airplane that the feeder airlines are asking may not match the specifications released. Engineers last week felt the landing and takeoff lengths particularly would have to be modified to obtain an economical plane. Air Transport Association, it is recalled, had to revise landing and takeoff specifications for a plane in that general category from 2,540 to 3,540 feet to get what it wanted for other characteristics.

PLANE SIZE—Predictions expressed by old-line air transport engineers are, too, that Feeder Airlines Association is asking too much passenger and cargo capacity for operations in the next few years. They will have to operate at 65 percent or better load factor to make any money, and experience of airlines in similar operation indicates feeder will do better with a plane in the 15-passenger class unless traffic conditions change more than expected. Nighttime to 25 passengers and/or cargo will come later, these observers feel.

DEMAND FOR TECHNICIANS—There may not be jobs enough for all technically trained men available after the war. But one highly placed government official expresses the opinion that technicians will be in demand in several foreign countries which will be in process of industrialization. The official named China, Russia, South America, South Africa, and others. These countries will be moving forward in the operation of aircraft, if not in their production, and in adaptation of other lines of machinery.

A crew of the Bell Aircraft showing the tail section of the thermal jet engine





PermoFlux Means Progress!

When PermoFlux Engineers began developing wartime designs for acoustical communications equipment, old concepts of efficiency stood only as relative measures for improvement. PermoFlux contributions, by more than meeting anticipated requirements, have achieved new performance standards of far-reaching importance. The value of these developments will be reflected in PermoFlux products of the future.

BUY WAR BONDS FOR VICTORY!

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PIONEER MANUFACTURERS OF PERMANENT MAGNET DYNAMIC TRANSDUCERS

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Will Aviation Progress Slacken in Peacetime?



One answers the AiResearch "Stretch." Designed and built for research on high-altitude flying, its facilities are now devoted to military projects. But after the war, this giant pressure chamber will again take on the problems of commercial flying.



Another: the AiResearch Wind Tunnel. This, too, will return to peacetime projects, helping solve such problems as the adaptation for tomorrow's finer airliners of the new intercooling and oil cooling systems that AiResearch has developed for planes of war.



Here: AiResearch specialists who perfected automatic exit flap controls... lightweight intercoolers... anti-engulfing oil coolers. From their "know-how" will come new heat transfer and pressure control systems, and AiResearch "condor-protection" for peacetime aircraft.



"Where Controlled Air Does The Job"
Supercharger Advancing Systems • Engine Air Intake Systems • Automatic Fuel Flow Control Systems • Temperature Control Systems • Engine Oil Cooling Systems

AiResearch
DIVISION OF
THE GARRETT CORPORATION

New OCS Regulation Designed To Speed Contract Termination

Office headed by R. H. Hinkley gives contractor chance to buy government-owned equipment in his plant or have it removed within 60 days, except when necessary for other war purposes.

By SCOTT HERSHEY

A fourth step has been taken by the Office of Contract Settlement designed to speed settlement of terminated war contracts but actual termination operations under provisions of the War Contract Settlement Act still constitute a major aircraft industry problem.

Latest regulation—No. 4—issued by the office headed by Robert H. Hinkley, gives the contractor the opportunity either to buy the government-owned equipment in his plant or have it removed within 60 days after request for removal, except when necessary for other war purposes.

► **Contracts—Previous** regulations covered T-tasks, part payments, and pre-termination agreements. Office of Contract Settlement does not, of course, settle contracts. Contracts are settled by the contracting agencies and therein lie some of the difficulties.

The War Contract Settlement Act was generally well received by the aircraft industry and widely interpreted as providing for negotiated settlements. However, some industry representatives attending schools run by the Army for termination officers have come away with the definite impression that terminations are not handled in that way, but rather that the officers are being taught settlement by regulation, by formula, or what is termed accounting for parts and pieces.

► **Over-All Settlements—The** aircraft manufacturing industry wants and is seeking over-all settlements which will eliminate declassification by a series of accounting receipts and theoretical constructions. The industry leaders emphasize that they are not seeking preferential treatment, but they do point to the peculiar situation

resulting in part from the unprecedented ballooning of the industry and the inevitable shrinkage in the office.

When the industry was called on to produce airplanes in numbers which seemed astronomical at the time, paper work was secondary and production was prime. The industry "normalized" into war production, as a matter of speaking, and feels that it should be "normalized" out when contracts are terminated.

► **Company Progress—It** has been suggested that each company set up its own termination program within the framework of the War Contract Settlement Act so that when termination comes, many details of formal settlement can be eliminated.

While top-side of the Army is

understood to be sympathetic to the needs of the aircraft industry for survival, wide discretion is given termination officers who are unable to go outside an accounting formula, prolonging settlement which the industry is not in a position to undergo.

Monetary costs play a part in this situation, since it takes time for orderly declassification—the dismantling of a large company can not be cut off sharply in 24 hours. The time factor involved represents money, overhead costs which are large even without production and which must be considered a part of costs just as those in getting production started.

► **Problem of Administration—The** difficulty seems to be one of administration rather than legislation. The settlement is in the hands of termination officers, property accountability officers and procurement representatives, each with a different function having to do with demobilization of the industry and any one can stall the other two.

It is the opinion of many industry leaders that the disposal problem must be separated from the termination problem and termination run immediately into how to est-



BRITISH TRY NEW LIAISON SHIP:

This new high wing monoplane, with a four-cylinder, aerodynamically exposed air-cooled engine (pusher), and fully armored and faired wings, has been test-flying in Britain but Army officials have decided not to order further production. Called by Aeroplanes, Bristol weekly, the Pave Flying Observation Post, it was intended to have steep angle of climb for using small fields near the front.

raise the value of the piston inventory, parts on which there is no book value, and on finished parts which may be the best. Another problem is that of small subcontractors, many of whom have never used cost accountants and separating a settlement with one of them to provide the Army engineers with a solid, factory answer adds to the difficulties.

There is a general feeling, however, that considerable progress has been made and there is not the pessimism apparent that there was some weeks ago. The Transportation unit of the Aeronautical Chamber of Commerce, headed by John K. Ryle, former Lockheed executive, has made great strides in working out a settlement program which will satisfy the industry and the government as well. Recommendations made by the unit have been accepted by the government in many instances and there is an increasing awareness among aircraft industry executives that the problem is imminent and that the companies themselves must play a vital role in abating the threat of settlement the industry must have.

More Data Released On New Jet Plan

The following data on jet propulsion engines built by General Electric for the Bell P-59B Answer from the British Whittle design have been announced last week by the manufacturer and the AAF at Wright Field:

► As previously reported, jet engines do not require the warmup necessary for conventional engines. The P-59 is ready for take-off with full thrust available in 10 seconds after the gas turbine are started.

► When the jet plan is in full flight, no visible flame comes out of the exhaust.

► Ignition radio interference and high altitude ignition trouble are virtually eliminated, because constant ignition is not needed with the jet engine.

► Power developed by the jet engines is measured in thrust pounds rather than in horsepower. For practical purposes one thrust pound equals one horsepower at a speed of approximately 375 m.p.h.

► The turbine is a compact self-contained unit with only one moving part. Air is drawn into the turbine, compressed and passed into

chambers where its temperature is increased by combustion of fuel creating hot gases which are directed through four nozzles. Forward thrust is created as the reaction from the high velocity discharge of gases.

► Because the thrust is produced directly without going to a propeller, vibration is reduced and reduced weight per horsepower is possible.

► In operation the P-59 runs so smoothly that the instrument is installed on the instrument panel to keep the pilot from getting into "talking".

► The Answer's speed is rated at "over 400 mph." It has excellent performance at all altitudes, weighs 10,000 lbs. dry, has a 40-mph. wingspan, carries four 50 caliber guns.

► Wright Field engineers have already added greatly to the flight endurance performance of the plane in tests, they report.

Fishers May Acquire U.S.-Owned Plant

Industry specialists say brothers considering buying plane factory to avoid delays.

The possible situation of Fisher Brothers of automotive fame to enter the aircraft industry reveals a matter of conjecture since the five brothers' formal statement Aug. 4, announcing their intention to get back in business together as a diversified corporation, revealed little but that it would be a big business.

A new business structure, with its complexities of organization, construction, equipment, machinery, insurance and sales program cannot be erected overnight. Before the Fishers can make anything, they will need to buy machinery, materials and other equipment and tools. With existing automobile and automotive parts makers clamoring for priorities to keep their giant labor force and distributive system operating without large scale unemployment, it is going to be difficult for any big new company to edge into the flow of materials, whether for aircraft or automobiles.

► **May Acquire U. S. Owned Plant**—There is some conjecture that the Fisher Brothers might purchase a government-owned plant largely equipped for aircraft manufacture and in that manner circumvent the long delay that would

face them in entering the automotive field. There is the possibility also of their purchase of a going aircraft company. Detroit observers feel that it will be at least two years before the Fishers could begin production of automobiles. This may have been a factor in the incorporation of "Fisher Brothers" and "Fisher Motor Car Co." under Michigan laws, with purposes set forth in "design, manufacture, sell, repair and deal in airplanes, automobiles and any and all automotive products."

The Fishers are not strangers to the aircraft field. Alfred Fisher has been director of aircraft activities of the Fisher Body Division of General Motors. Sources close to the Fishers say they had incorporated only to protect the names as a business asset.

► **Bold GM Stock**—The brothers hold 60 of the largest blocks of stock in General Motors Corp. and two of the brothers, Lawrence and Edward, are on the board. Edward Fisher, vice president of GM and general manager of the Fisher Body Division, and Alfred Fisher are continuing in the management of Fisher Body as long as their services are required by the business.

Lawrence Fisher was a GM vice president in charge of Fisher Body Division and William Fisher was a vice-president and director of GM and president of Fisher Body Corp. Their last with General Motors ended last week, but in an August statement they said they have wanted to get back in business together as a family since 1907. The family started in business together, they explained, and desire to finish it together.

Otto R. Stocke Dies

Otto R. Stocke, assistant to the manager of Consolidated Vultee's Nashville plant, died of a heart attack last week.

He joined Suncoast Aircraft Corp. in 1933 as assistant general manager and vice-president, previously having been vice-president of Dornier, Inc., in Indianapolis. Stocke went to Nashville in May, 1946, and was active in setting up the administrative machinery when Suncoast began operations there. When Suncoast was purchased by Vultee Aircraft, Stocke continued as division treasurer and became assistant to the division manager as the merger of Consolidated and Vultee.

Immediate Provisional Routes Prime Aim of World Air Talks

Agenda lists wide range of subjects, including establishment of transport service during transitional period, and discussions designed to lay groundwork for multilateral aviation convention and international aeronautical body.

Immediate establishment of provisional world air routes and services which would operate during a transitional period has emerged as one of the prime objectives of the international conference on civil aviation to be held in the United States beginning Nov. 1.

The proposed agenda lists discussions on arrangements covering a transitional period, and establishment of air transport services on a provisional basis at the top of the list, together with the drafting of agreements to implement the provisional route pattern and to guide operations during the period. ► **Subjects Covered**—This would cover such matters as landing and transit rights, right of technical or non-traffic stop, application of cabotage, use of public airports and facilities on civil aviation, nationality laws, frequency of operations, bona fide nationality of air carriers and control of rates and competitive practices.

British Conference

A British Commonwealth Air Conference is to be held in Montreal starting Oct. 25, preceding the international conference on civil aviation to be held in the United States starting Nov. 1.

Premier Mackenzie King announced that operations and technical problems connected with establishment of air services between Empire nations would be discussed with recommendations to be made to individual governments.

Commercial and technical services undoubtedly will be reviewed and planned not only for the remainder of the war, but extending into the post-war period. Australian plans for an air ferry service to North America probably will be the subject.

It was understood that no discussion on policy would be held at the meetings, which will describe the "preliminary" work of other committees "concerning" the international policy.

It is planned now to select a committee on air transport to serve during the transitional period.

Technical aspects of international air transport are expected to receive considerable attention and time of the conference and in this regard the United States delegation is reported to have a fairly concrete program ready for presentation.

► **Procedures Studied**—Recommendations will be made for setting up and adopting standards and procedures in such fields as communications systems and air navigation aids, including ground-to-air facilities, the air-traffic control practices, standards governing the licensing of operating and mechanical personnel, aerobically requirements of aircraft, registration and identification, collection and exchange of meteorological information, lightbeams and maps, airports and customs procedures.

A technical committee and sub-committee probably will serve during the transitional period, and draft detailed proposals for submission to interested governments.

► **Multilateral Convention**—Overall discussions will cover a multilateral aviation convention and an international aeronautical body. This will include the formulation of principles to be followed in developing a new multilateral convention on air navigation and related subjects and establishing a such permanent international aeronautical body as may be agreed upon and desiring the consent of its jurisdiction.

Consideration also will be given to establishment of an interim council to serve during the transitional period which might suggest the work of other committees functioning during this period together with recommendations concerning limits, composition, and scope of the interim council and determination of the length of the transitional period, machinery for converting recommendations of the interim council and its committees into permanent arrangements.



'SKY HOOK' DROPS CARGO:

Patterned after the unladen eagle used, the "Sky Hook" new container for supplies delivered by air to isolated army bases and front-line airfields, sports a hook at a speed of approximately 45 m.p.h., carrying about 65 pounds of supplies in the plastic "pod" to which is attached a wing of wooden framework covered by airplane cloth. The container opens automatically for post-war commercial use, since it drops with negligible drift and much greater accuracy than parachute containers. It is under test by Air Technical Service Command, at Wright Field, and was first reported in AVIATION NEWS, Aug. 25.

Nearly the half of United States delegates had been assured late last week.

Hammer Field Cost

Building and expansion of Hammer Field, 1,365-acre AAF installation near Harrisburg, Pa., which construction was begun in July, 1941, has cost the Army \$1,685,000 to date. Col. Robert C. Hantz, district engineer reported.

Facilities include two miles of heavy runways, four miles of paved taxiways and 64,893 square yards of apron. The post comprises 348 buildings, 15 miles of paved streets and 95,706 square feet of warehouse space and storage for 375,000 gallons of gasoline. In addition, the field has target and bombing ranges amounting to 5,435 acres.

B-24 Salvage Yards Free Surplus Ideas

Teasing down of *Liberator* zeppelins that sale price of parts obtained hardly justifies job.

Use studies of a torn down *Liberator* bomber, which have proceeded for the past several weeks in Washington, have been fruitful in ideas but unproductive in crystallizing any policy that might be followed in handling these war-worn and surplus planes.

Concerns of those who have seen the display arranged by the Surplus War Property Administration is that it may be possible to devise a number of non-aeriation uses for parts of the bombers, but it is questioned whether the return will equal the cost of dismantling.



AIRBORNE COMMAND IN GLIDER MANEUVERS

Paratrooper gliders, in silent night landings, paved the way for invasion of the Army Airborne Command's camp at Camp Meade, N.C. last week. Working with *Trout Carrier* command plans and aircraft, the glider industry and postwar evacuated more than 1,000 men, 250 gliders, 200 transport planes, further developing airborne doctrine already successfully used in European and CBI combat theaters. Above: Paratrooper troops unload gliders after night landing to prepare for additional glider forces. Below: at *Liberator*-Marion Army Air Base, nearby, other glider troops test glider "ditching" procedure, after under-landing in C-47A glider. Without hoists, glider would sink to wing level in two hours, but plywood wings would keep it afloat indefinitely.



Total cost is estimated to be \$2,000 or more on a production dismantling basis and the general opinion is that it might be difficult to obtain that much return from individual units.

Solution Still Sought—The display, seen by hundreds of Washington experts in various fields and by dealers in materials before being brought in the Capital, fully emphasizes that the problem of these thousands of surplus bombers and fighters over and above any conceivable use has not been solved and is nowhere near a solution.

A survey disclosed few who believed that commercial use can be made of much except isolated material, such as radio, instruments and tires.

The assumption of SWPA is that the people of the country will not

readily understand any parking of the planes without an effort to obtain some return—yet the planes cost more than \$200,000 fully equipped and there is little possibility that more than one percent of this cost can be obtained even by complete dismantling of the plane. Many of those who have seen the display feel that sale in parts would not equal the cost of tearing down the thousands of planes that will follow it into surplus.

Uses Suggested—An indication of the thinking of those who examined the display is found in the variety of uses suggested for parts:

• Radio equipment could be used to equip thousands of the nation's radio-controlled railroads in other countries. It could also be used in police cars, yachts, some civilian planes. Whether such sales would recoup the economic impact they have on the radio manufacturing industry is questionable.

• Gas tanks might be put apart to use as bag and cattle feeders. But most hog and cattle raisers have feeders and sides would have to be at ridiculously low prices to obtain any volume of sales.

• Fuel tanks might be used as dinner, much as the old railroad cars were used at one time, but two or more would have to be used, and there is a joint dinner manufacturing business that would be sent into a tailspin by such sales, even if they proved profitable.

• Instruments might be used in other aircraft. Such use, however, if carried to the ultimate, would wreck the instrument manufacturing business.

• Engines might be used on commercial aircraft, but not when owners of the original design refuse to certify them except after they have been factory inspected and then not when changes in design have been made by licensee builders. If they are to be used, engine design will lag far years and the history of the C-47 engine will be repeated.

• Auxiliary generators might find some industrial and farm use, but they will have to be adapted, if they can be, for proper current.

There are the most-voiced suggestions. To actually execute any proposal, however, the person making it, often sees difficulty. The general viewpoint is that these planes were bought and built for war purposes and that their contribution to victory should be returned through.

Sales of Surplus Army Trainers Moving into Heavier Categories

More than 400 light craft already sold, bringing total disposals to 5,500 planes; best of small ships are already taken.

Although more than 400 trainers declared surplus by the Army have been sold through Defense Plant Corp., bringing total surplus sales to approximately 5,500, the volume of plane movement is slowing down perceptibly as light trainers in the 65 hp category are cleared away.

The preparation of bid invitations is being set for heavier trainers, largely *Waco* C-47A, *Ryan* PT-22A's and *Fairchild* PT-19A's. Among other later types offered for bids recently have been one *Boeing* DGA-10, a *Lockheed* C-101, and a *Ryan* ST-6.

A Sample List—Sample of recent invitations for bids gives the following comparisons: 63 *Ryan* PT-22A's, 66 *Waco* C-47A's, 83 *Fairchild* PT-19A's, 146 *Boeing* DGA-10's of various types; 110 *Boeing* DGA-10's of various types; 146 *Boeing* DGA-10's of various types; 146 *Boeing* DGA-10's of various types; 146 *Boeing* DGA-10's of various types.

Some of the heavy types are from Army surplus. Of the approximately 8,000 Army planes declared surplus, less than 2,000 are light trainers, of which virtually one-fourth have already been sold. Number of sales to *Black*—As a result, it may be expected that surplus sales will dwindle quickly and flourish the percentage of return to the government.

Other factors are entering into the picture, also:

- Flying schools and food base operators, who have been buying a large proportion of the light trainers, have reached their saturation point.

- Confirmed restrictions on flying in the coastal sections keeps closed a potential market.
- Gasoline rationing, no matter how lenient, will have its effect.
- High prices for light planes previously sold have kept many buyers out of the market waiting for a break in bids.

- Renewal in several months of civilian production by lightplane makers, which will stimulate most surplus ships.

Transports—Available in transport types under allocation are a two-engine *Cessna*, *Lockheed* *Radson*, *Avco* *Assen*, *Fairchild*

two-engine advanced trainer, *Douglas* B-23 converted to transport, *Boeing* two-engine advanced trainer, and a *Douglas* *Dolphin*. Negotiations are now being set for sale of at least two of these planes. The *Assen*, *Cessna* and *Fairchild* could be used as small transports, although at least the first will have to get CAA approval for civilian use in this country. The *Boeing* is similar to the *Lockheed* 14, and could be converted to a 12- or 14-passenger transport. The *Douglas* *Dolphin* is an amphibian and the type is chartered as an excellent. Some 30 were built, 25 for the Army, 10 for the Navy and 13 for the Coast Guard, one for the Argentine Navy, and 11 for individuals. One was assigned to President Roosevelt's 1945 tour of the world. Pan American had two, still others were owned by William Wrigley, Jr., the Vanderbilts, Standard Oil of N. J. They were built between 1931 and 1938.

The *Boeing* as a 14-15, is the only one of the kind. It is designed to train crews in team operations. Heavy, and built when metal was short, it has wood spars, steel tie fuselage and fabric-covered wings and fuselage. It has

Piper Gliders

Thirty surplus Piper TG-8 training gliders have been offered for sale, with an asking price set by Defense Plant Corp.

The gliders were a conversion of the Piper "Cub" plane with engine and engine mounts left off and pilot and student moved forward to compensate.

Piper Aircraft Corp. says when it is possible to convert the TG-8 into a "Cub," it would not be economical because reconstruction costs would be high. The company recommends that they can be salvaged for space wings, which, it says, has no other use.

been used at Wright Field for tests and is not CAA approved.

One PBY has been sold to *Lockheed* Airways. It had been used by *Robber Reserve* Co., RFC subsidiary, in Brazil.

Heads Peru Mission

Appointment of Maj. Gen. Ross K. Rowell, a Marine aviator, to head the United States air mission in Peru, is announced by Admiral Chester W. Nimitz, commander in chief, Pacific Fleet headquarters at Pearl Harbor where Gen. Rowell has been commanding general of first Marine aircraft. Gen. Rowell will organize and train the Peruvian air force.

Act on Surplus Transports

Priority lists for surplus transports on the basis of applications, and being prepared for all transport types of more than 3,000 pounds gross weight.

Civil Aeronautics Board is now dealing with the domestic disposal agency, Defense Plant Corp., and State Department. It is working with Federal Economic Administration in preparing foreign lists.

These lists will be combined and final decision on allocations will be made by Surplus War Property Administration and the interdepartmental working committee composed of representatives of the State, War, Navy and Commerce Departments, the CAB, BEPC, War Production Board and FEA.

Applications from domestic users should be sent to James A. Gurnfield, chief of the Surplus War Aircraft Division at BEPC, at 1015

K Street, N. W., Washington 25, D. C., and from foreign users to William W. Reinhardt, Temp "U" Building, Washington 25.

Applications should include:

- Name, address, ownership, business and nationality.
- Statement of numbers and types of planes now in use.
- Specific types and quantities of aircraft and spare parts wanted, with full particulars as to preferred type of engine and similar details. Alternate types, second and third choices are wanted.
- Description of routes now served.
- Statement of use of new equipment, additional routes and territories to be served, and whether planes are required for certain only.
- Detailed statement of urgency of need.
- Description of operating and maintenance facilities.

Reconversion Bill Passed But Vital Problems Still Remain Unanswered

Action fails by far to close issue of industrial reconversion, observers declare, although admitting that measure does much to clear up government's plan for demobilization.

The Reconversion Bill became a law last week but actions of the President in signing the measure failed by far to close the much-discussed issue of industrial reconversion. Still unanswered are the several questions which can vital to effect operation of the bill as to make it either a success or a failure:

- How will it mesh with the machinery now being set up in WPB for industrial reconversion?
- Who will lead the agency and become the actual director of reconversion of the aircraft, automobile, construction, and other major industries?
- What additional legislation is needed now, or will be needed later, to give the measure what President Roosevelt called full effectiveness?

Actually, the bill does much to clear up the Government's plan for reconversion. Final enactment and White House acceptance of the measure offers industry its first assurance guide to demobilization. This knowledge, together with WPB's careful statement of policy on what it proposed to do as V-E Day, will unquestionably go far in preventing a recurrence of alarm such as that which occurred in both WPB and industry last week when Chairman J. A. Krug's blueprint was first unveiled to industry division directors.

WPB will continue to be the administrative "reconversion agency" and will operate under the general policy direction of the newly created Office of War Mobilization and Reconversion. While later agency will deal more with inter-agency matters involving pricing, production, transportation and the military, while WPB will to a large extent be left with the job of re-converting industry. This means that despite the new bill, manufacturers must still look to WPB for removal of restrictive orders, for permission to re-enter civilian production, for settlement of controversies over materials after the Controlled Materials Plan is removed, for production schedules on war contracts still outstanding, and for the new priorities which

will be placed into effect on V-E Day.

► **Blueprint for V-E Day**—Krug's blueprint for V-E Day caused little surprise, since he had earlier made it clear he was going to place the bulk of the responsibility for successful reconversion on the industry itself. The blueprint, which was circulated within WPB last week, did exactly that: all controls over industry were to be removed with the defeat of Germany, except those necessary to guarantee the production needed to defeat Japan. So far as possible, industry must find its materials and protect its own competitive standards. WPB would advise when its advice was sought and would rule when complications became severe.

James F. Byrnes, director of the Office of War Mobilization, which was merged with the new reconversion agency, is now definitely removed from the reconversion picture. Although Byrnes has agreed to remain as head of the new agency, it is admittedly a temporary acceptance and the White House has concurred in this. A permanent director is not likely to be named until after the election—since the term of office is a maximum of two years—but if President Roosevelt is re-elected it is now felt that his choice will be one of three men: Economic Stabilizer Fred M. Vinson, Budget



Map Shows Flight Restrictions. Still under restriction by latest order of interdepartmental Air Traffic Control Board is this thin strip along East Coast, banned to private fliers. Order moved line five to ten miles closer to the coast in most places, while private fliers questioned the military necessity any longer for any coastal ban.

Director Harold D. Smith, or OPA Administrator Chester Bowles.

► **"Human Aspect" Factor**—The possibilities of reconversion legislation being re-opened after the election are good. Regardless of the outcome of the election, pressure will be brought for a liberalization of the "human aspect" of reconversion, and the blanketing of approximately 3,656,668 federal employees under unemployment compensation benefits is virtually assured. Whether or not transportation bonds will be furnished migrant war workers is less certain in view of the fact that considerable heat developed about this provision when the George bill was in conference and the appointment was sharp and sustained.

One thing is certain and that is if President Roosevelt is re-elected he will make a determined effort to have these two provisions written into the reconversion bill. This man was clearly indicated when he signed the bill with the statement that "I feel it my duty to draw attention to the fact that the bill does not adequately deal with the human side of reconversion." Those familiar with the significance of White House statements recognized this as notice that the subject of reconversion legislation is not yet closed.

Federal Takes Over Dominion Air Job

Federal Aircraft, Ltd., of Montreal, government-owned company organized in 1946 to coordinate production of twin-engined Avro Anson bomber trainers in Canada, is reported to have taken over the functions of the aircraft production branch of the Department of Maritime and Supply.

► **Trainer Program Near Completion**—Virtual completion of the training aircraft program is understood to be partly responsible for the move. The staff of the aircraft production branch of the department of maritime and supply is being transferred largely to Federal Aircraft.

No production changes are contemplated at this time at Victory Aircraft, Ltd., Toronto, government-owned plant making Lascow-

ter bombers, or at de Havilland Aircraft of Canada, in which the government holds a large interest, which is making Mosquitos.

New Plane Gunsights

New gyroscopic gunsight devices which automatically lead enemy planes traveling at more than 400 mph., at ranges of more than 400 yards and at higher angles of deflection than was possible previously, are now in mass production for use by Navy aerial gunners.

The new gyro "lead computing" gunsight device was adapted for mass production jointly by Bendix Aviation's Eclipse-Monroe division and Eastern Kodak Co., and is the American version of the British Mark II-D device. The new sighting device combines the most efficient qualities of previous reflector and computer gunsight

types which have been under constant development by both Army and Navy for several years.

► **Operation Simplified**—Navy gunners using the gyro sight are required to make only two manual adjustments. They first turn a lever to indicate the type or size of the enemy plane and then turn a twist grip to indicate the range of the plane.

Thomas A. Dicks Dies

Thomas Andrew Dicks, 53, pioneer propeller designer and consulting engineer for Hamilton Standard Propeller Division, United Aircraft Corp., died Sept. 30 at his Pittsburgh, Pa., home. A native of England, he came to this country as a youth, began work as an apprentice with Westinghouse Electric and Manufacturing Co. Later he designed one of the first

Newest photographs of the Bell Airacrest jet-propelled airplane, powered by General Electric units.



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bolter-boost propeller blades and in 1918 the Bounded Duck-Landwell Propeller Co., at Princeton, later the firm changed its name to Standard Steel Propeller Co. and still later became affiliated with United Aircraft as Hamilton Standard Propeller Division. It was credited with probably the first drop-forged duralumin propeller blade design in 1921, and in 1922 with development of a new bolt-on metal blade which is still in use today.

Ceilings Delay Plans On Post-War Output

Plane manufacturers told to WPA's engineers that applications be filed for civilian production.

Some manufacturers of light aircraft are not enthusiastic about War Production Board's suggestion that applications be filed for civilian manufacture because Office of Production Administration ceilings make such present cost structures infeasible.

One application, however, is reported virtually complete and ready for submission to War Manpower Commission. It is that of General Aircraft & Research Corp., makers of the Erospace. Some 20 other manufacturers are reported to have talked with WPA and either formal or informal applications made. WPA, on the other hand, reports it has had 12 or more requests for information on purchase of specific executive type planes from potential buyers.

Releasing-WPA's chief is said to go through the formalities of governmental red tape in processing the applications, is reportedly ready to process manufacturers as they can proceed at the earliest possible time with civilian, warlike. Army spokesmen say all controls of materials may not be relaxed on the fall of Germany and that L-48 orders will not be necessary then to obtain needed supplies.

Applications, says Richard S. Perkins, deputy director of the Aircraft Bureau and consultant at WPA for the former Aircraft Production Board, should emphasize the availability of labor and cost as much information and statistics as possible to show they can man their plants without using critical labor. Cost detail appears on the plans, but because applications must be approved also

by the War Manpower Commission. Orders Required—State present regulations require evidence of orders for essential use before permission to manufacture is granted, orders for planes held by the manufacturers will have bearing on the processing of the applications. Efforts are being made to relax these restrictions.

Mr. Perkins also suggested the applications stress availability of equipment and trained personnel for when no jobs will be available unless civilian production is permitted to maintain the financial position of the company applying.

Wasp Program To End Dec. 20

The controversial Women Airforce Service Plans program will end Dec. 20, with many the end of war service for approximately 1,000 WASPs, including the final class now in training.

Gen. H. H. Arnold announced that unless there are unexpected developments, the scheduled Dec. 20, 1945, will inactivate the WASPs on that date. A report came from the AAF a few weeks ago, signed by Miss Jacqueline Cochran, WASP director, recommending that the WASPs be inactivated. Gen. Arnold's announcement precedes that possibility.

Controversy—Decision to inactivate the group came after several months of controversy over further training of women pilots at a time when several thousand male officer pilots were available to replace the group in the disbanding of the civil pilot training program.

Congress was told in the idea of training women pilots further and the army was barred. Several attempts, including Miss Cochran's, were made to revive it, but to no avail.

WASPs have flown virtually all types of aircraft in diversified classes of work including ferrying, target towing, simulated bombing runs and simulated missions by day and by night. They volunteered in order to release, and not to replace, male pilots, according to the War Department announcement.

Such additional benefits have been confined to GAA, officers or approved airport stations. The revision also permits the first class mechanic with specific authorization from the GAA to make the repairs required for renewal of aircraft certificate.

New Classification For Mechanics Asked

Proposed GAA changes demand no more needs of small operators.

New classifications for mechanics' certificates designed to meet needs of small operators and individual mechanics are suggested in a second proposed revision of Civil Air Regulations Part 24, being circulated by GAA's Safety Bureau for comment in the industry, prior to consideration by the Board. An earlier proposed revision was generally disapproved by communication because of the number of classifications and ratings.

Revision No. 2 proposes definition of light aircraft, weighing 3,000 pounds or less, and heavy aircraft, weighing more than 3,000, light engines, of 500 hp or less, and heavy engines, of more than 500 hp. It also proposes "certificates" as covering the aircraft main power-plant.

Nine Category Ratings—A mechanic may be eligible for certification in one or more of nine category ratings, including maintenance and service of light or heavy aircraft, repair and overhaul of light or heavy air frames or light or heavy engines, and as a mechanic in propellers, instruments or radio. Within any of these categories he may be rated as a first class mechanic if he has had at least three years' experience and demonstrated fitness for the rating. He may receive a second class rating for aircraft, airframe or engine categories with one year's practical experience and demonstrated fitness in the type of work he proposes to do. Written oral and practical tests for ratings would be given by a CAA representative.

James W. Landford, safety bureau director, points out that the ratings were set up on a basis of needs of the individual mechanic and the small operator, and the revision provides that the first class mechanic would be authorized to make inspection and return aircraft to service after major repair, overhaul or alteration, if he has the proper category rating.

Such additional benefits have been confined to GAA, officers or approved airport stations. The revision also permits the first class mechanic with specific authorization from the GAA to make the repairs required for renewal of aircraft certificate.

British Order More Air Training Curb

RCAP consolidates several commands as result of pilot cut.

Despite curtailments are being effected in the British Commonwealth Air Training Plan started in 1940 and the Royal Canadian Air Corps, which has been operating the program, announced consolidation of a number of training commands. In addition, four members of the RCAP Air Council have been reduced.

An air training plan graduated its 100,000th air crew man last May.

New Zealand Curb—It is disclosed further that a British request has been sent to New Zealand to send no more student flyers to the United Kingdom for service with the Royal Air Force. This follows a recent change in plans curtailing air personnel sent to Canada under the Empire Air scheme.

It is estimated that some 2,400 administrative and ground personnel in New Zealand will become unemployed or be forced to other jobs as a result of the curtailment.

New Air Command—in Canada, in the meantime, while the training program is being reduced, RCAP recently set up a new Northwest Air Command to operate the Alaska Airway route. RCAP is establishing a large radio network on this route from Edmonton to Whitehorse.

There has been no mention in RCAP announcements of curtailments of operations on the West Coast, and creation of Northwest Air Command points to Canada's active participation in the war in the Pacific.

ATS Outlines Plan For Postwar Training

Pilot training of 104,000 American youths planned as insurance of continuing American airpower, was recommended last week at Miami, Ga., by J. Wendell Coombs, president of Aeronautical Training Society, representing civilian flight schools which since 1939 have been the major primary flight training for the AAF.

Speaking before the Georgia Aviation Club, Coombs recommended that the post-war flight training program include 36 hours' flight training for college and university students, experienced by

CAA and coordinated with air branches of the armed services.

North Atlantic—Additional training to complete the 100,000 men to be selected on a merit basis, from a mass training group of 1,000,000 or more youths between 17 and 25, after the group had completed a year's military, physical and academic training program, either voluntary or compulsory.

Warning against the danger of demoralization of our Air Force because of pilot abandonment soon after the war, unless a continuing training program was put into effect, Coombs pointed out that air school insipidities built up and worked by the government for optimization by civilian flight training organizations are available for use from coast to coast, and could be put to use in the suggested training program, almost immediately after the war.

Saga Delay CAA's 10-Year Port Plan

First in what may be a series of studies, the CAA's proposed 10-year, \$100-million, \$100-million building program, held up the presentation of the program to Congress last week beyond the expected time. When the CAA report is completed, review by the Bureau of the Budget, the report is to be transmitted to the Speaker of the House following the review, and coupled with the report on the approval or disapproval.

On the same day, the submission of the report to the Budget Bureau was more government routine procedure. The Bureau is charged with reviewing any report of a federal department or agency which proposes expenditures.

A disapproval stamp on the program would, of course, be a serious handicap toward its ultimate completion. It has been reported the Bureau has no present serious looking attitude at the report program (Aeronautical News, Sept. 18).

Reopening—Traditional reluctance of Congress to spend money in a post-war period, leaves a major obstacle further along in the program's path. Ultimate fate of the bill may depend on the amount of interest shown in its enactment by the Senate, and the influence of its members to their Senators and Representatives in Congress.

That some lower interest exists is indicated by the enthusiasm over the country for local aviation projects. Whether it can be effective

fully transmitted to Congress in volume proportions to its real use remains a question.

Canada's Plants Shy On Research Funds

Double Dominion industry can compete with American and British manufacturers.

Canadian aircraft companies will not be able to finance engineering, development and research staffs which can compete with those of other countries until present aviation subsidies are withdrawn. The opinion of E. G. Smith, president of Fleet Aircraft Ltd., of Canada.

Smith added that concern problems besetting the aircraft industry in the United States have their counterparts in Canada, and contends the government has not allowed Canadian manufacturers enough earned profits compared with the "unreasonable" American and British counterparts have accumulated to provide for post-war needs.

Post-War Plans—Fleet has certain plans for the post-war period and is planning to enter in the formative stage which Smith did not decline to his comments on the financial situation.

Bailey Aims to Spur Air Policy Program

With a view to hastening a declaration of policy on post-war aviation, the Senate Committee on Aeronautics, Sen. Joseph Bailey (D., N. C.), chairman of the Committee, has submitted a brief on the subject to members of the aviation subcommittee.

The brief is the first concrete step by the group toward drawing up a report which will be presented to the Senate before the present Congress adjourns at the end of the month. It is the present plan of the Committee.

Changes Proposed—Bailey called on members of the subcommittee, which is headed by Sen. Bennett Clark (D., Mo.) to offer amendments and suggestions on his broad. Several changes already have been proposed, but their character, as well as that of the brief are to remain confidential.

Bailey expressed the belief that the brief is only a tentative proposal by him "to focus attention on the matter of international aviation, crystallize thinking on the subject, and hasten action on a report."

ACCA Council Asks Further Easing Of Personal Flying Regulations

Geating and Morgan present statement of policy on freedom of personal flight to Burden, Fugate and T. P. Wright; second report on specific recommendations for changes to be ready in few weeks.

By ALEXANDER MCKURELY

Need for still further simplification in Federal regulations governing personal aviation, going beyond proposals of new regulations now being considered by Civil Aeronautics Board, as being urged by the Personal Aircraft Council of the Aeronautical Chamber of Commerce.

A thoughtful general criticism of red-tape restrictions hampering private flying was presented to William A. M. Burden, Assistant Secretary of Commerce; L. Welch Fugate, CAB chairman, and T. P. Wright, Civil Aeronautics Administrator, last week, by Joseph T. Geating, Jr., chairman, and John E. P. Morgan, manager, of the Council.

New Report Prepared—More specific suggestions for red-tape simplification and carrying unnecessary restraints will be contained in a second detailed report to be presented within a few weeks. "Trend of the country is toward simplification, however, in the compact first 'Statement of Policy on Freedom of Personal Flight'."

Complementary CAI on the approach already has made to the problem, the statement questions whether new rules in preparation are simplified "sufficiently to meet the public need," and calls for a new viewpoint to be taken by the new administrative agencies and industry.

Private Flying Promotion—Positive mandate by law to the administrative agency, not only to tolerate and police, but actively to promote private flying is asked. While in the past, private flying has been considered "unimportant" compared with military, research and mail flights, it is pointed out that the airplane's most important future role may be as private conveyance to the ordinary

citizen, a role similar in social and economic importance to that of the automobile. Distinction between flying for pleasure and business, and flying for government purposes as a training program, is suggested.

- Recommended for inclusion in proposed civil aviation laws, are:
 - Statement of Congress' intent to make air space available to all people for travel and to encourage individuals in using personal aircraft for business and pleasure.
 - Requirement for uniform regulation for all navigable air space.
 - Declaration that use of aircraft in flight in connection with any crime is a Federal criminal offense.
 - Prohibition preventing exclusion of any type air traffic from any airport based on membership from public funds unless suitable alternate landing facilities for personal aircraft are provided.
 - Statement preventing restrictions on ownership and operation of airplanes beyond those applied to ownership and operation of automobiles.
 - Declaration that the right to pilot an aircraft shall depend only on proof of ability to fly with reasonable skill.
 - Authorization of flight freely within the United States, without license, flight plan, permission or report, except when flying on special airways, to be located so as not to obstruct free flow of unregulated flight. No prohibited areas except those created by Act of Congress.

Concerning that the intent of many regulations now existing is right, and that pilots should act as the regulations constrain them to do, the council urged that these be rewritten into a "Code of Best Practices" to serve as an editorial guide for users of personal

Change of Viewpoint

Early legislation regulating aircraft was designed to protect the person on the ground from "an accident that was due to negligence or carelessness," Joseph T. Geating, Jr., chairman of the Personal Aircraft Council, Aeronautical Chamber of Commerce, told the Senate Aviation Clinic at Mecon, last week.

There is still a pronounced tendency for State and Federal government toward over-regulation rather than fostering and advancing aviation, he added. State aviation commissioners, he pointed out, have an important role in developing personal aviation through efficient aviation regulations in the public interest and an actively developing leading nations within their state, to make personal flying more practical.

accident, rather than "want" regulations. It points out the "beyond responsibility of manufacturers and servers to educate the users in safe flying procedures in the interest of public safety." Plans owners must be guided, for example, in their responsibilities of ownership and maintenance of aircraft, by the Code, rather than by detailed regulations. It is suggested that such regulations be redefined to be made comparable to existing laws with respect to ownership and maintenance of automobiles.

A pilot's license should be made relatively as easy to obtain as an automobile driver's license, was the student's thesis. A simple oral realistic flight test and a written test covering information in a proposed sample "codebook" of questions and answers on the most important facts about flying. In studying for the license, the student would involuntarily learn these facts. Also, it is suggested that any individual holding a pilot's certificate be permitted to give instruction, although pilots giving instruction for hire should be required to possess a professional or commercial license.

- **Rules**—Simplification of traffic rules is urged, including:
 - Lowering contact weather limits off-airways.
 - Creating distinction between regulated airspace (civil airspace and control zones) and unregulated airspace (the control zone).
 - Reviving civil airways to the

lowest layer of airspace would be unregulated everywhere except in control zones.

Redesigning control zones and extending them by including approach channels.

Relaxing contact flight rules in unregulated airspace, reducing present rules with "obscure" exceptions below overcast to remain visible to other ships flying below overcast in the same vicinity."

Control of contact flight is regulated aspect by a new weather observation system, introducing "Contact Weather" and "Radio Weather" as intermediate classes between good Contact Weather and Poor Instrument Weather.

Creation of an Airway rating permitting a private pilot to rated, when flying a radio-equipped plane, to fly in the regulated airspace in intermediate weather, leaving standard procedures restricting personal airplanes to enter control zones despite industrial smoke conditions now technically closed as instrument weather.

Airworthiness—Reducing at minimum cost to the owner, unencumbered, relying more on manufacturer's responsibility for design and production practice. Present requirements have added costs far out of proportion to actual air safety needs in personal planes, the council asserts.

Summarizing, the statement values the Council's conviction that "regulation has grown to the point where it imposes an excessive burden hampering the public right to fly and imposing additional and unnecessary costs," and urges that the rules of flying be simplified and stressed in proportion to the tremendous technical and operational strides made in aviation.

Port Zoning Talks

Only minor technical changes were adopted in the model state airport zoning act at a Washington conference for its revision Sept. 29. Conference was CAA officials, and state and municipal officials, representing the National Institute of Municipal Law Officers and the Council of State Governments.

Except for the minor variations in phrasing, conference approved the original law first drafted in 1941 by NEMLO and CAA. The law will be presented for consideration in state legislative sessions next January and February. Twelve states have adopted the model zoning law in essence, with 18 states still to consider it.

Variable Pitch Propellers Developed for Lightplanes

Several plants producing or working on models to be offered in post-war market for use on smaller aircraft.

By BLAINE STURRLEFIELD

A preliminary survey by Aviation News shows that a growing number of manufacturers have variable pitch propellers for light planes in development or production. All output at this time goes to Army and Navy to improve efficiency of trainers and light utility planes.

Importance of pitch control will increase as designers seek economy and attractive performance for private aviation. Mass-produced variable pitch aircrafts have never been used on light personal airplanes.

For many years, efforts to design small V. p. props have grounded on the obstacles of cost, weight, and unavailability in the hands of amateur pilots. Scores of mechanical, hydraulic, electrical and automatic principles have been tried, and either seem to require too much of the pilot or to be almost as essential to performance and to economy in private flying as the gear shift or its equivalent is to steering.

Early Methods Used—One way to get variable pitch is to own two or more propellers of different

pitch, and to mount the one that seems best suited for the work to be done, low pitch for short flights out of restricted fields; higher pitches for long cruises, etc. Another method, practiced for many years, is to use blades adjustable on the ground to various angles. Next step is the two-or-more-pitch V. p. unit, which can be changed in the air. After that come combinations of hand and automatic control; then fully automatic control.

Barrett Hayward Division, Koppers Co., Baltimore, appears to be the only manufacturer of lower-horsepower V. p. propellers in volume production, and, according to company officials, the only one in production of a fully-automatic propeller in the low power bracket. Extensive portions of the Barrett Hayward plants are devoted to this project. Company makes practically all parts, including hub casings and wooden blades, working almost entirely with automatic machine tools—some of its own design.

Representative of the R. R. "Aeromarine"—advertised as "The propeller with a brain for tomorrow's



Where Aeromarine Prop Units are Made: Barrett Hayward makes most of their own parts for the Aeromarine lightplane propeller. Nearly all work is done with automatic machine tools, which enable the manufacturer to achieve relatively low prices with maximum in volume.

place"—has been the adaptation of engineers everywhere. It utilizes the several natural forces acting on the blade and the centrifugal force acting on a counterweight to accomplish automatically the desired change in pitch for varying conditions of flight. Position of the blade represents the component of all the forces, in a continuous state of balance. A compensating gear, much like the differential between the driving wheels of an automobile, makes positive the equality of pitch in the two blades. There are no cockpit controllers or hand controls of any kind. Company has literature detailing design and function of Aeromaster design.

Bertlett Hayward officials believe all personal airplanes, except possibly those in the lightest weight category, will be equipped with v. p. propellers for economy and attractive performance. They feel that weight and cost will be progressively reduced to minor considerations with relation to the entire plane. They realize, then, that different types will come into competition with their own. The company has high horsepower propellers of the Aeromaster type in development. Some engineers argue that completely automatic propellers for high power ratings may not be desirable for military and transport craft. Operators that have flight engineers incline to favor auxiliary hand controls for manual problems in fuel economy, overload, temperature control, take-off, and the like.

Engineers with Bortlett Hayward say they see two frequently approached by light airplane de-

Estimated Post-war "Aeromaster" Propeller Prices and Weights			
Horsepower	Size	Estimated Weight	
65-80	30in	25 lbs.	
80-100	32in	30 lbs.	
100-120	36in	42 lbs.	
120-150	40in	52 lbs.	
150-200	48in	78 lbs.	

signers who regard the propeller as an after-thought accessory. In their opinion, all designers should start their work with the propeller in mind as an integral part of the power system.

Beech Aircraft Corp. is in production of the Robey, or Beech Variable Pitch Propeller, all for government use on lightplanes. Company does not feel free at this time to publish details. In general, however, officials say they believe performance gain due to controllable propellers cannot be obtained in any cheaper way, such as by increasing engine power, hence v. p. use will increase rapidly. Aeromaster pilots need not be restricted as to type of v. p. unit, because its use is much simpler than automobile speedshift. Beech says the continuously variable pitch prop is more efficient and useful than the two-position unit, because two-position control effectively solves only takeoff and level cruise conditions and not climb at varying rates or cruising descent.

Freeman-Bearman Engineering Corp., 409 East South St., Canton, Mass., has under development both ground-adjustable and cockpit-controlled propellers for post-war market. The ground-adjustable unit weighs about 15 pounds complete, and the cockpit controllable, about 40 pounds. Post-war price of the adjustable was \$71; price of the controllable in post-war production is not predictable. Company officials believe controllable pitch screws desirable on all light planes for good performance and fuel saving.

G. Anselmy, general manager of Danlosky Tool Co., 394 West 44th Street, New York, has been working on an automatic propeller for two years. He reports having received a recent Army order for it, in excess of a million dollars, for installation in various light planes. Anselmy hopes to get the price of his unit down to \$135 in the near future. He did not say what the Army is paying for it.

Reese & Brothers, Little, Pa., are doing development work on ground-adjustable and two-control

units, and will be ready to make arrangements within several months. Company is making about 20 percent of wood blades for the propeller industry, including Anselmy, Beech-Robey, Glenn Aircraft, Loperberg, Freedman-Bearman, and others.

Curtiss-Wright Corp., Buffalo, says only that it is definitely interested in low power v. p. propellers, is doing some development work, and may enter the field.

American Propeller Corp., 1333 Alameda Road, Toledo (makers of hollow steel propellers), says it has some developments under way. Company feels that a controllable propeller is definitely a part of the light plane picture, and that it will be incorporated in designs now being prepared.

Martell Propeller Co., Piqua, Ohio, which has been making fixed pitch wood propellers since 1917, aluminum blades, and propellers for some of the well-known airplanes, says it is interested in developing v. p. propellers for light planes.

Piper Desautels, which is generally agreed that medium and heavy personal aircraft will incorporate v. p. airframes, it is an open question whether the lightest category of airplanes will derive much benefit from them. Piper Aircraft spokesmen say that, as long as runways are sufficient in length to accommodate other planes, it does not seem worthwhile to use controllable or automatic propellers on light planes in the early post-war era. All of Piper's recently-made propellers, they say, have been designed to give the best top speed, and since they can always get in and out of any field that any other plane can fly from, they see little advantage in having the improved takeoff which a controllable propeller would give. Piper is said to be delivering some of their light Army planes with Beech Robey props.

Detroit Port Study

Planning for an international free airport in the Detroit-Windsor area and a study of overall airport needs within a 50-mile radius of the area is the assignment of a Detroit Metropolitan Aviation Planning Commission light plane. Detroit and Wayne County authorities to coordinate aviation planning in the area. Sheldon B. Storer, state aeronautics director, has been named to prepare a prospectus for the international airport, and other airport needs.



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PROPELLERS

P-27 Lightning, P-47 Thunderbolt, P-48 Warhawk, P-51 Mustang, P-52 Ace, and many other famous U. S. fighters.

Curtiss Wright Corporation • Propeller Division

Piper's Forecast

Post-war plane for the private flyer will be low-wing with conventional landing gear, W. T. Piper, president, Piper Aircraft Corp., believes. He told Indianapolis newsmen it may have a two-control arrangement with a shift which would make separate rudder control available if desired.

Speaking before the Indianapolis Real Estate Board, Piper stated necessity for new airports in municipalities from 300 population up, warned against danger of small communities over-investing in huge airports, predicted increase in plane production costs because of higher labor and materials costs after the war.

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Get the Facts on **Mobilgas Mobiloil Aero**

construction and improvements costing \$5,000,000. Of that \$5,000,000 is being spent on runway improvements, with an appropriation by the CAA through the Army. Other projects are being handled by the Navy.

CAA Maps Air Study For High Schools

A program of general aviation education, of interest to aircraft manufacturers and others concerned with selling flying to the public, is being advocated by Civil Aeronautics Administration for high school students.

Manufacturers interest lies in the fact that the course the CAA is proposing to incorporate in high school curricula deals in part with the structure and design of aircraft and plane power plants. Airlines may expect that increased emphasis on all aspects of aviation will encourage passenger business.

High School Courses—CAA estimates that more than half of the nation's 35,000 high schools are offering some type of aviation course. Chief difficulties are lack of a wide selection of suitable texts and enough trained teachers. CAA is helping overcome these deficiencies by advising in preparation of syllabi and in suggesting training courses for teachers.

CAA has outlined a general course of instruction aimed to give high school students a wide background of knowledge on all phases of aviation. This course embraces: air national and international life; aircraft structure and materials; aerodynamics, theoretical and practical; civil air regulations; aircraft power plants and instruments; meteorology and aerial navigation.

Vote on Gas Tax

Minnesota voters are to vote at the November election on a proposed state constitutional amendment to permit the state to tax aviation gasoline and aircraft and use this money for aviation purposes including a state airport system.

A poll by a Minnesota newspaper indicates that only 24 percent of the people of the state have heard of the proposal. Of those polled who are familiar with it, 76 percent say they will vote for it, 9 percent say they will not, and 15 percent do not know.

Air Nomenclature

Aviation is underhanded in its nomenclature. Nowhere is this more apparent than in the borrowed words from the sea and other realms. Most inconvenient is the lack of any terms at all for the different kinds of civilian aircraft. While automotive vehicles are designated as automobiles, buses, and trucks, all aircraft are just airplanes.

That is the reason for the following expressions: "private flying," "personal" aircraft, and "transport" plane. Truly needed is a set of new words, each depicting the kind of civil aircraft one has in mind. These should be equivalent to "car," "truck," "bus," on the road, and "jet," "bomber," "freighter," "bus," on the water.

The Personal Aircraft Council of the Aero Club, having promulgated a set of designations— "carpet," "nightwing," etc., for landing gear, is interested in suggestions for the naming of airplanes. Military aviation is fortunate in having exclusive names for some of its types, such as "fighter," "bomber," but our categories still require two or three words for complete description.

Parks Leases Port For Ecoupe Sale

Park Aircraft Sales and Service has leased Haines Airport, 40-acre field three miles from downtown Indianapolis, as its Indiana center of operations for distribution of the Ecoupe.

The two-year lease gives Parks exclusive control after Jan. 1, and Douglas K. Fiebert has been named vice-president and general manager, by Oliver Parks, East St. Louis, president.

Other field base operations of the service are being established at Topeka, Kansas City, East St. Louis and Chicago, to cover an eight-state region.

Other Operator Moves—Parks has been conducting limited operations at the field for some time, giving free lessons on the two-cylinder Ecoupe. Robert F. Shank, former and veteran operator of the Booster Airport, recently acquired a 152-acre airport site six miles northwest of Indianapolis and will establish his operations there after Jan. 1.

Fletcher announced plans to

construct 30 individual plane hangars, with 40-seat electrically operated doors as soon as materials could be obtained, and said the number would be gradually increased as required, up to a maximum of 450. The field will be landscaped as an airport. Delivery on maintenance equipment to make the Booster-Park Airport a complete airport and engine repair base for light aircraft is expected in 60 days.

War Pilots Must Know Civil Rules

Indications that the "overseer" of military pilots in civilian flying, both as private flyers and as commercial pilots, will require a "safe and sane" approach is taken by the Civil Aeronautics Administration after studying recent reports of accidents involving returned military pilots flying unauthorized civilian planes.

Some of the reports involve pilots who have been invited by private plane owners to fly their planes, and who have accepted the invitation regardless of their knowledge of the slower, lower-powered civilian planes, with resultant accidents.

Operators and Owners Warned—CAA regulations designed to cover such cases provide that if a pilot has not flown the same type of plane within the last three months, he is required to take a check flight with an instructor.

Responsibility rests on the commercial operator and the private plane owner to see that these requirements are observed, as both may and should, in the interest of safety, refuse the use of their planes until the rules have been complied with, the CAA points out.

Commercial Operators—In regard to commercial flying, regulations headed "military competence" require the returned military pilot to show that his military pilot rating is at least equivalent to the type and grade of pilot certificate sought, that he pass a written examination on Civil Air Regulations; and that he prove honorable discharge, and that he submit a certificate from an appropriate officer proving his experience and also his competence as a military pilot.



FIBERGLAS* XM-PF Aircraft Insulation

Only by seeing, feeling, weighing and flexing this new insulation can you realize how radically different it is from other insulations, and why every case available has been going into U. S. Military Aircraft.

Fiberglas XM-PF insulation is made up of short, jagged material—glass in the form of very fine fibers bonded into a flexible mat form. It is easy to handle and fabricate. It requires no stitching or taping to maintain its form and shape, even under extreme vibration. And it weighs as little as one pound per cubic foot, while providing an optimum of insulating effect.

This new material has a specific factor of over 80 as measured in insulation when properly installed. This, combined with its light weight and durability, has made it ideal for the accelerated transport of pilots' radio operation and navigation components in aircraft.

In thermal use in aviation include the insulation of hot-air ducts and fittings on aircraft, also the insulation of cargo and troop transport compartments. Being made of glass, the fibers will not rot or burn. Equally important, this material absorbs a negligible percentage of moisture under extremely humid conditions.



If you are not already familiar with Fiberglas XM-PF, contact literature or sell your own to maintain its many advantages. Why not get in touch with the branch office nearest you? You can write to Owens Corning Fiberglas Corporation, 1932 Nichols Building, Toledo 1, Ohio. Or Contact Fiberglas Canada Ltd., Oshawa, Ontario.

FIBERGLAS

...A BASIC MATERIAL

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OTHER AIRCRAFT USES OF FIBERGLAS

AIRCRAFT BLANKETS

Another type of Fiberglas blanket insulates three B-29 Superfortresses on display here. It was made of Fiberglas Insulating wool, Type H. Lined with Fiberglas cloth and covered with glass thread. Available in 1 1/2 lb. and 3 lb. blankets, they are examples used in insulating gasoline tanks, exhausts, fuel exhausts, etc., on high-temperature planes, etc.

FIBERGLAS COATED FABRICS

The use of Fiberglas cloth in these fabrics for coating with various resins, epoxies, polyurethanes and other coating materials, provides a finished material having very good thermal qualities—good dimensional stability and strength under the most severe conditions of humidity, temperature and heat shock resistance. While used in the insulation of gas heat sink systems, insulation covering flexible containers, tanks, fuel cells, ducts, tanks, many other uses.

FIBERGLAS-REINFORCED PLASTICS

Made by combining certain low pressure resins with various resins, the Fiberglas-impregnated plastic is a strong, tough, light weight, corrosion-resistant material. While used in the insulation of gas heat sink systems, insulation covering flexible containers, tanks, fuel cells, ducts, tanks, many other uses.

TAPES

Another type of Fiberglas tape—made from Fiberglas yarn. With extremely wide and varying widths, quantities and other electrical properties, many other uses. Can be used to insulate gas heat sinks, heat exchangers, tanks, etc. in aviation—used in covering of thermal insulation on heat sink systems, etc. for convertible landing planes, etc.



THE AIR WAR

COMMENTARY

Germans Hold Temporary Edge In First Jet-Propelled Fighters

Craft reported capable of over 550 mph, with fast climb, out-run fastest Allied planes but Mustangs, Lightnings and Thunderbolts, with superior maneuverability, have shot down some.

In probably no other way has the extensive German Air Force research department paid greater dividends than in enabling the Luftwaffe to throw into operational use at least three fighters of the rocket or jet-propelled type months before those of the Allies were put into action. In 1944, for example, Germany's aeronautical research facilities were large enough to sustain a dozen establishments equal to the combined facilities of the NACA at Langley Field, Wright Field, and the Naval Aircraft Factory.

As war broke out in the fall of 1939 the Nazis were boasting that they were then working on aircraft which would be seeing action in 1944, if required. It is now known that both the Heinkel He 162 (Me 163) and the Junkers Ju 287 (Me 263) were hard at work on propulsion units, and that the major aircraft components, including Messerschmitt, Heinkel and Dornier, were developing several models of both jet-propelled fighters and bombers.

Action in Early 1944 — Sure enough, trial operations of some of these aircraft were observed by Allied bomber crews and reconnaissance pilots at the turn of 1944, and by mid-summer production and operational testing had proceeded far enough to commit some of them to combat. There is no doubt that the desperate strategic situation brought them into action before the time was fully ripe, but the fact remains that in operation, if not in technical achievement and design, the enemy is a step ahead in the parade.

It is probably from similar considerations that the British have thrown into action one of their jet-propelled fighters against the German rocket bombs, while con-

tinuing further developments of this type of aircraft. The first American jet-propelled fighter, the Bell X-1, powered by two Whittle-designed General Electric units, is but the prototype of a series of jet fighters and bombers reported under development by several leading companies for both Army and Navy, which already give promise of exceeding anything now in sight abroad. Of course this remains to be seen.

Characteristics of German Models — Of these so far positively identified and announced, most is known of the Messerschmitt 163 and 263. The stubby, tear-drop Me 163 is powered by a liquid rocket propulsion unit, which gives it an amazingly fast climb and top speed reported as over 550 mph, but a very short endurance. By using its fuel instantaneously, between long powerless dives, its endurance may be prolonged. For straightaway speed nothing in sight can catch it, but it is outclassed in maneuverability, several having been reported shot down in turning fights by two Mustangs, Lightnings and Thunderbolts.

The Me 263 is a jet, not a rocket, with two units, twin tail and a more conventional appearance. Speed may be slightly less than the 163, but endurance and maneuverability are reported as excellent. The 263 and the somewhat smaller Heinkel 280 pose a genuine threat, as so much against our heavy bomber formations (whose recent low losses appear to be from renewed and determined conventional fighter opposition), as against other aspects of Allied air activity.

Army Planes and Coas — Withdrawal of remnants of the former British First Airborne Division from Arnhem, on the other side of the Neder Rijn, caused a tem-

porary let-down in the popular evaluation of this type of operation. The advantage and limitations of airborne tactics should be better understood. By means of such "vertical envelopment" the great element of surprise can be used to secure an "airfield" of completely equipped airborne troops to overlap certain objectives, turn a flank, disrupt communications or divert enemy strength from the main front.

In the nature of the case, such troops will be "surrounded" by the enemy—that is, just when they want. On the other hand, it is essential that they be relieved or strongly supported by air and from the ground within a few days, at most. It should be remembered that despite the importance of airborne operations and their unique value under certain conditions, they constitute but one aspect of the complicated technique of air-ground cooperation.

Objectives in the Holland Operation — A bold attempt was made to provide three stepping stones to place Allied forces across the Rhine (a size goal set for the invasion of Germany) by the dropping of the American 101st and 82nd airborne divisions at Breda, near Arnhem, on the West River (lower branch of the Rhine) and the British at Arnhem (upper Rhine).

The first two airborne steps, Dornier's Second Bertha Army made a rapid thrust northward, and by the gallant stand of the Red Devils at Arnhem was enabled to enlarge and strengthen a corridor and bring 35 or more German divisions in Holland and the Dutch Islands. As a whole, therefore, the operation was a success, and definitely advanced our status on the northern flank. Similar operations will be planned and executed, in full cognizance of the risks involved and the great advantages to be gained by a successful, or even partly successful outcome. **NATHANSON**

Heads B-25 Wing

Brig. Gen. Robert D. Knapp has been commanding general of the B-25 Mitchell wing in the Mediterranean theater since March, 1944. He was darkened. When the Twelfth Bomber Command was dissolved General Knapp took over the Mitchell wing. He has been in command of training at the Tuskegee Army Airfield, Kelly Field and served as executive officer of the first bombardment wing at Langley Field, Va.

Sensenich Replacement Propeller List For Military Airplanes

Some Sensenich-equipped Mustangs, Mustangs and Kittyhawks were originally purchased by the armed forces but have already been sold to commercial operators and private

firms. There is every indication that more will be sold in the near future. This list is published for the convenience of the purchaser to facilitate ordering replacement propellers.

AIRPLANE	MODEL	ENGINE TYPE	ENGINE MODEL	HP	AAI DESIGN	SENSENICH DESIGN	QANTAS
Mustang	134, B, C, E, F, J	Continental	A-12	40	4301257	73C-1, 73C-4	
Mustang	139	Pratt & Whitney	4 AC 178 R2	45	73142	73142, 73144	7
Mustang	132, B	Lycoming	Q-145 B-3	45	73174	73174, 73176	2
Mustang	143-3	Continental	5-270 S	200	73134	73134, 73174	2
Mustang	143-3, D, H, J, K, L	Lycoming	5-280 T-1	220	4401703	73A-4, 73A-6	8
Mustang	143-3, A, H, J, K, L	Continental	5-270 S	200	4301703	73A-4, 73A-6	8
Mustang	143-3, A, H, J, K, L	Continental	5-270 S	200	4301703	73A-4, 73A-6	8
Mustang	143-3, A, H, J, K, L	Continental	5-270 S	200	4301703	73A-4, 73A-6	8
Mustang	143-3, A, H, J, K, L	Continental	5-270 S	200	4301703	73A-4, 73A-6	8
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New Flaps Control P-38 in Dives, To Speed Progress of Future Ships

Hinged wing device developed by Lockheed and AAF solves problems of compressibility for *Lightnings*; being tested on other warplanes.

A significant development in aerodynamics is reported by Lockheed Aircraft scientists in the problem of compressibility, the barrier to airplanes reaching the speed of sound.

More than three years of research by Lockheed and the AAF has produced dive flaps which have solved the compressibility problem so far as the P-38 Lightning is concerned. Tests also are being made on other craft.

Compressibility will be an important factor in the still faster military planes to come but Lockheed engineers maintain that it can be controlled by the same principle embodied by their dive flap, although these principles will be applied by different devices.

Attached to Wing—Two hinged pieces of metal, less than three feet square, are attached to the under side of the Lightning's wing and operated by a button on the pilot's control wheel. These dive flaps control the flow of air across the wing to defeat the phenomena of compressibility. The ordinary dive flap serves primarily as a brake. Lockheed scientists report that their development permits the Lightning to dive at tremendous speed, but still under full control. After a dive of 30,000 feet, the P-38 with these new devices now levels off within 3,500 to 5,000 feet after the pilot has begun to pull out.

Details of the new dive flaps are restricted, but they have been in full production on the Lightning for months and "dip kits" are on route to combat theaters for modification of earlier models.

Phenomenon—Compressibility is a phenomenon encountered by aeronautical engineers for the first time when they began dealing with the terrific speed of aircraft in this war. The P-38 was one of the first to encounter it, although

not for a year or so after production was under way.

Lockheed engineers in their announcement liken the phenomenon to snow piling up in front of a plow and breaking loose in large pieces. Masses of air pile up in front of the wing during sharp dives. These masses break off in "chunks," roll back and strike the tail surface so hard that the turbulence causes extreme buffeting of the airplane, and often loss of control and a crash. The difficulties with tails of earlier Lightnings were due to this cause. More buffeting is set up in the wing itself, by a conflict between two laws governing air flow. At slow speeds, air acts like water—being non-compressible. At supersonic speeds, the air flow acts like air, compressing and expanding when the

pressure is off. Between these two extremes is a broad belt where the air's behavior fluctuates between these two laws so rapidly that the wing loses its lift and the resultant buffeting shakes the airplane out of the pilot's control.

Stabilizer—Lockheed reports that their dive flaps are a solution throughout the tactical speed range of today's aircraft. They stabilize the air's tendency to fluctuate between the two contradictory acts of laws, and keep its behavior within the slower speed range which maintains lift in the wing.

When retracted, the dive flaps leave a clean wing which does not reduce the Lightning's unarmored 420 mph speed. Extended, they do not materially reduce its dive speed, but they control it.

Packard Reconversion

Plans for reconverting Packard Motor Car Co.'s main Detroit plant to automobile output and production of car replacement parts will be speeded by recent purchase of a new Detroit plant, to be used for machining Rolls-Royce Aircraft engine crankshafts. President George T. Cropper said the crankshaft job would be moved to the 110,000 square foot new plant, machine by machine, operation by operation to prevent interruption in production of aircraft engines.



Lockheed Gains Over Compressibility: Dive flaps developed by Lockheed engineers control the flow of air across the wings to help defeat the phenomena of compressibility. Two hinged strips are fitted to the under side of the Lightning's wing and operate by a button on the pilot's control wheel. Compressibility has been the barrier to airplanes reaching the speed of sound and so far as the P-38 is concerned, Lockheed reports it can dive at tremendous speed under full control minus the buffeting which occurs during high speed dives.



*NEW STANDARDS
IN AIR
TRANSPORTATION*

1903—First standards for "flying machines" were set by the Wright brothers at Kitty Hawk when their fragile biplane stayed in the air for twelve long seconds and flew the unbelievable distance of 120 feet.



1944 *Lockheed Constellation*

SETS NEW WORLD STANDARDS IN PERFORMANCE

Air transportation has reached a remarkable degree of efficiency

since the Wright brothers first flew 41 years ago—

progress which has reached a new peak in Lockheed's Constellation.

After the war, when it flies the airlines of the world, the new standards

set by the Constellation will help make all countries neighbors.

Town connector, continent spanner and empire blazer, it not only thinks

space and time, but brings new safety, comfort and economy to air travel.



LEADERSHIP IN PERFORMANCE

Highest cruising speed of any transport → Longest range of any transport → Greatest load-carrying ability of any transport
→ Highest rate of climb of any transport → And these performances make the Constellation the safest of any transport



QUESTIONS

Q Was special equipment used on the Constellation to set the 7-hour transcontinental speed record?

—L. R. K., Mobile

A. No. It was a production line Constellation flying at cruising speed. Could do better if pushed.

Q Could the Constellation stop at our town's airport?

—S. K., Webb City, Mo.

A. If an airplane can stop now, the field is big enough for a Constellation.

Q How far can the Constellation fly—non-stop?

—Gene K., Kansas City, Mo.

A. Actual figures are still secret. But it will span a continent with range to spare.

Q What does close proximity mean?

—L. S., Boston

A. It means greater passenger comfort. "Proximity" means that as active low-flying planes fly, comfortable cabin pressure is maintained at varying altitudes—controlled by the flight engineer—independently of how fast the airplane climbs or descends.

Send in your questions Address: Lockheed Aircraft Corporation, Department 69-25, Burbank, California

LOCKHEED AIRCRAFT CORPORATION

FOR DEPENDABILITY IN FLIGHT

LOOK TO *Lockheed* FOR LEADERSHIP

Superplane Development, Problems Discussed by SAE at Los Angeles

Post-war aviation outlook and studies made to increase effectiveness and safety of projected craft are main topics at National Aeronautics Meeting.

Projected aircraft development and means of overcoming problems arising from larger and faster planes were the main subject of discussion at the National Aeronautics Meeting of the Society of Automotive Engineers at Los Angeles last week.

Speakers at the sessions concentrated on post-war outlooks and studies now being made to increase the effectiveness and safety of planes now on the drawing boards for postwar production.

Mainly Model Awarded—The Manly Memorial Medal, awarded annually by the Society for work in engine development, was presented to John Otto Alkner of Detroit, based on his technical paper, "Shot Blasting to Increase Fatigue Resistance," which has been characterized as useful in developing parts for aircraft and other engines requiring maximum strength with minimum weight.

R. D. Kelly, of United Air Lines, described to the sessions the installation of stall warning devices. On takeoff, the warning lights connected to air flow sensitive units in the wings are all lit. As speed is attained the lights go out and when all are extinguished, the pilot is certain the plane has speed enough to become airborne. The system is also valuable in stormy weather conditions. Mr. Kelly said.

Overhaul of Super Planes—General Service Manager Beaman C. Stuekel, of Lockheed Aircraft Corp., suggested post-war commercial planes will be too large for indoor servicing and must be designed for maintenance by the perpetual overhaul, continuous repair method so as to keep them profitably in the air. He described an airplane and maintenance system, evidently referring to the Constellation that will permit the plane to be operated 18 hours daily and overhauled every 5,000 hours without being out of service or grounded for repairs longer than six hours at any time.

Trends in landing gear were shared by Ray W. Brown, of Princeton Tire and Rubber Co., who said 200,000- to 300,000-pound land planes probably would utilize

eight-wheel articulated undercarriage units. Dual air landing wheels with tires of small diameter appear promising for today's planes of 120,000 pounds gross weight, but not for the greater weight of new ships to follow.

He characterized air as the ideal elastic support for the plane while taxiing, with rubber a close second. He said oil was merely an ideal medium for absorbing the heat and energy of landing impact.

Fatigue and Fatigue—Eminent problems of fatigue and fatigue failures must be solved in advance of construction of these new super-planes, said R. L. Schleicher, chief structural engineer of North American Aviation. He proposed that static analysis of airplane structures be supplemented by analysis of the effect of impact loads, with detailed consideration of potential acceleration about the three principal axes of the plane and of the increasing important secondary effects due to the deferred condition of the structure. The entire problem of dynamic loads resolves itself into the accurate determination of applied loads on the structure, of dynamic stresses in the structure and of fatigue strength of aircraft structural materials and types of construction.

Fred E. Wick, developer of the Boeing private plane built by Engineering and Research Corp., described operation of the transport ship and the abilities of normal students to learn flying quickly in this type plane, referring to research by Parker Air College, reported earlier in Aviation News.

Chief Engineer A. G. Wagner and Industrial Engineer F. R. Macomber of the Stinson Division of Consolidated Tuller Corp., outlined engineering steps toward large-scale production of civilian planes at low cost. They advocated cost-conscious design engineering, with the basic cost of material, labor and tooling held to a minimum to reduce selling prices. This means that even saving of \$1 in direct cost will mean a reduction of \$2 in selling price.

Other papers and their highlights: **W. L. Wheeler**, of North American Aviation, pointed out of system performance in war planes indicated a need for mechanical improvements in the sliding assemblies.

Captain H. J. Chase, of Pan American Airways, urged engineers to give attention to problems of fuel for long-range flights and improvements in radio navigation equipment and methods.

J. H. Brewer III, of United Aircraft Corp., outlined processes of engineering thought and of calculation leading to decisions whether forced cooling should be installed on aircraft engines.

H. A. Rose, of Lockheed Aircraft Corp., detailed global weather complications in military aircraft and the operations experiments that must be conducted for post-war planes operating in different climates.

Wesley B. Brown, of General Motors Corp., described a device which accurately and rapidly measures the critical thickness after final machining of highly-stressed parts of airplanes.

Chief Test Pilot Ralph B. Johnson, of United Air Lines, outlined a flight deck coordinator and operational script that has been successfully used for inexperienced crews.

Henry Breynert, industrial designer, outlined aircraft design improvements that might be attempted in post-war craft.

T. B. Floyd, of Douglas Aircraft, pointed out that global plane operations will require careful attention to temperature extremes that must be considered in plane construction.

Last A-29 Produced

Douglas Aircraft Co. has produced its last A-29 Mosquito at the Santa Monica plant—the 7,000th of a series of these twin-engine craft which is being supplied by a new Douglas military aircraft squadron bomber now in quantity production in other plants.

Details of the new warplane reported some weeks ago, are still restricted, beyond the designation A-29.

Retooling—In the wake of the final A-28, guns and fixtures are being replaced in retooling for construction of more four-engine transports. This is increasing its production of the C-54 Skymaster and has a large quantity on order for Army and Navy.

Get flexible lighting for each employee...each job... with DAZOR *Floating* LAMPS



MORE PRODUCTION

Both machine and hand operations go faster, more readily, with controlled overhead lighting. Dazor Floating Lamps help employees increase and maintain efficiency.



HIGHER ACCURACY

Adequate lighting aids precision, reduces errors, conserves materials by cutting down scrapage. Dazor high intensity illumination is just right for inspection tasks.



GREATER SAFETY

By lighting dark areas and sharper points, eliminating reflected glare, reducing eye strain and fatigue, Dazor Floating Lamps help to check accidents of the source.



LOWER COSTS

Dazor Floating Lamps deliver production, economical light. Option of fluorescent or incandescent lamps and 4 beam types provides a correct fit for each installation.



CHOICE OF 4 BASES



Call your electrical wholesale supplier or write us for the names of our distributors in your locality.

DAZOR *Floating* LAMPS

FLUORESCENT and INCANDESCENT

Commercial Planes "Standardize" Props

Cost in almost every case reported using three-blade Hamilton models, lighter and smaller in diameter than corresponding military versions.

Selection of propellers for new commercial aircraft is, in almost every case, for three Hamilton blades, generally lighter than the corresponding military versions, with smaller diameter and less flaring at the shanks than the public blade.

The smaller propeller is noticeable in the DC-4, for example, as against the military C-54, and the older DC-3 as against the C-47. ▶ **Laminar Flow Airfoil**—Airline blades are also generally incorporating the NACA laminar-flow airfoil which, by virtue of its low drag characteristics, provides improved propeller performance in level flight or cruising conditions.

Announcement of details of the Douglas DC-4 and DC-6 which were constructed for recently by American Airlines, Pan American-Grace, United and PCA, disclosed that new Pratt & Whitney engines installations would turn basic 11-foot versions of three-blade Hamilton Standard Hydromatic propellers. Lockheed's Constellation also is equipped with 13-foot Hydromatics.

▶ **Slurk Blades Used**—Other new airline planes which have either been or reached a stage where power plants have been selected have likewise selected Hamilton Standard blades, the manufacturer reports. They include Consolidated Tuller's C-38, Martin's Model M-252, and Fairchild's new C-82.

More than 30 other projected passenger and cargo planes, still in the planning stage, are reported to have scheduled Hamilton Standard-built props.

10,000 Planes Set Up By Lockheed Unit

Lockheed Aircraft's British assembly division has completed more than 10,000 airplanes since it was started the year before the Germans marched into Poland.

Since that time, plants in Scotland and western England have reassembled, repaired or modified more than 10,000 planes of nearly

every make from the first Douglas Boston shipped from France in 1918 to North American Mustangs, Republic Thunderbolts and Lockheed's own Lightning.

▶ **Business Returns to U. S.**—David J. Bribbon, general manager of the division, has returned to the home office. He joined the engineering division of Lockheed in 1937. Bribbon plans to return to England in December.

Bell Quits Air Post

Ralph P. Bell, director-general of aircraft production at Canada, resigned as of Oct. 1 and will be succeeded by W. A. Newman, of Montreal, president and managing director of Federal Aircraft, Ltd. Bell, who is president of Peckford & Black, Ltd., steamship agents, went to Ottawa in June, 1940, at the request of C. D. Howe, Minister of Munitions and Supply.



NASH-KELVINATOR'S SIKORSKY HELICOPTER STUDIED:

Photo shows the cabin exterior of Sikorsky R-6 helicopter being built by Nash-Kelvinator. A larger version, the R-5, is being produced at the Sikorsky Bridgeport plant. Photo shows large plexiglass nose and side-by-side location of seats. Other picture left to right are Charles C. Thomas, chief engineer of the helicopter division, R. A. DeLong, vice-president in charge of manufacturing, Col. H. F. Gregory, AAF Air Technical Service Command, who has been in charge of AAF helicopter experiments, A. M. Wibel, vice-president, and Lerat, Col. D. W. Dismas, of the production division of the Air Technical Service Command.



PERSONNEL

Edgar N. Gott has stepped as assistant to the president of Consolidated Vultee Aircraft Corp. He has been associated with the aircraft industry for 25 years and was vice president of the old Consolidated Aircraft Corp. prior to its merger with Vultee Aircraft, Inc. Gott said he would take up a previous vacation with rest and relaxation following a brief vacation. He has been vice president and director of the Manufacturers' Aircraft Association and a director of the Aeronautical Chamber of Commerce.

Brig. Gen. William B. Old (photo), veteran of the Spanish campaign with more than 90 combat missions, has been promoted to major general of the 11th Air Corps Command, since August, the War Department announced. He succeeded **Brig. Gen. Frederick W. Evans**, Jr. as commanding general of the command, General Old is head of the school of basic in the continental U. S. where Troop Carrier units are trained to drop paratroopers, by gliders, deliver supplies to forward aircraft and evacuate the wounded in hospital planes. His headquarters are at Root Field, Indianapolis, Ind.



Myron B. Gordon

Myron B. Gordon, formerly vice president and general manager of Wright Aeronautical Corp., and a vice president of Curtiss-Wright Corp., has been elected a director of Fairchild Engine and Airplane Corp., and appointed vice president in charge of operations. Gordon was a director of Curtiss-Wright and Wright Aeronautical. He became secretary-treasurer of Wright Aeronautical in 1929. In 1940 he purchased the Wright Aircraft and Engine plant facilities arrangements with the U. S. Government through the construction Finance Corp. Among developments he supervised were the 34- and 38-cylinder Cyclone en-

gines, a turbosupercharger, the forged cylinder head and the adaptation of the Whirlwind engine to power army tanks.

Col. Frank W. Wright has been named commander of Wright Field, replacing **Col. Eustace Fisk**, whose new assignment has not been announced. Col. Wright has been commanding officer of the 27th Base Unit at Lewis Army Air Field, an installation of the Second Air Force.

Leonard J. Povey, formerly vice president in charge of flight operations for Boeing, has been appointed to a military training mission position with Fairchild Aircraft division in Hagerston. Having organized the present Cadet Air Force and trained most of the pilots in four years, Povey returned to this country where he joined the Civil Aeronautics Authority. He was active in the beginning of the Civilian Pilot Training Program and has written several flight instruction and safety manuals.

Capt. C. L. Heller is the newly appointed Navy Bureau of Aeronautics representative for the San Diego area replacing **Capt. C. M. Haden**, who recently left for Philadelphia, where he will be manager of the Naval Civil Aircraft Factory. Captain Heller took his flight training at Pensacola, and then spent eleven years in the Naval aircraft factory. He has served aboard the U. S. S. Lexington and in the Bureau of Aeronautics, Washington.

John M. Beardslee has been named manager of the Civil Aeronautics Administration's new sixth region in Hawaii. Beardslee, who has been with CAA since 1935, began work as a civil engineer and assisted in laying out the beginnings of the airport system. Later he was assigned chief of the surveying engineering branch at Alaska and managed the Pacific Islands office in Hawaii. For the past year, he has been chief of the surveying engineering branch of the sixth region, Santa Monica, Calif.

Virgil Cary, formerly publicity director for Transcontinental and Western Air, Inc., Chicago, has joined the Chicago "Daily News" copy desk.



NAVY'S BIG THREE PRESENT AWARD

Under Secretary of the Navy **Ralph A. Bard**, Secretary **Jersey Forrester**, and Admiral **Ernest J. King**, Commander-in-Chief, U. S. Fleet, were present when the distinguished **Charles F. Warner** Award was made to **Rowland Warner** (second right) chairman of the Procurement Review Board of the Navy. Warner is vice-president of Pure Oil Co.

PERSONAL

Long experienced distributor of aircraft specialties desires to hear from aircraft supply dealers.

Object: To assist them in making more money now.

Address: Supply Division, Inc., Lambert Airport, Robertson, Missouri

Your reply to this "personal" will be answered *in person*. A Supply Division representative will call on you and present the results of this company's 11 years of experience gained through constant contacts with dealers all over the country.

He will offer sound, practical selling plans—suggest ways to increase your immediate sales

volume—recommend merchandising methods that will give you a valuable competitive edge in your sales area.

There is no charge for this service. So just drop us a note today... and we'll soon be working with you to increase your present profits and help you prepare to take full advantage of the bigger-than-ever opportunities that will come with peace.

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Phone TOWER-5380
(St. Louis)



128 W. GLENN AVE.
CHICAGO, ILL.
Phone: 34221
115 JENNISON AVE.
MAYWOOD, ILL.
Phone: 34772

YOUR "Warehouse Annex" FOR AERONAUTICAL SUPPLIES

Are Eastern Corp., Bryan, Ohio, under J. P. Johnson, executive vice-president. J. E. Allen, assistant to the president, was elected a vice-president. Johnson is in charge of Aero's Cleveland plant.

Charles L. Beard, vice-president and secretary of Bell Aircraft Corp., has been named to supervise all contract termination procedures. Beard has been with Bell since 1935 in the administrative, production and fiscal program of all three company divisions. **Louis Fenn Sperry**, company treasurer, has been named a vice-president of the corporation in charge of financial affairs. Sperry joined Bell last year after having been treasurer of the Philadelphia Eagles. The Lane Co. Sperry continues his duties as Bell treasurer.

Alvin Rager has been named operations manager of Otto Aviation, a division of Otto Aviation Corp.



Rager has been in the aviation industry for more than 30 years and for several years has been a pilot and flight instructor. He has done flight test work and been a busy pilot of military aircraft. Rager has now assumed charge of all the charter flight operations of Otto Aviation and will supervise the flight instruction program at the new Otto Aviation campus in Hainesport, N. J. Prior to the war he was active in the Civilian Pilot Training program and had charge of this training for students of the University of Southern California.

Otto R. Stecke, 34, assistant division manager at Nashville Division of Consolidated Vultee Aircraft Corp., died of a heart attack Sept. 30. Stecke joined Stinson Aircraft Corp. in 1930 and served as assistant general manager and vice-president. He became affiliated with Convair after its purchase of Stinson.

N. G. Loewman is the new industrial relations manager for Waco Aircraft Co., Troy, Ohio. For the past two years, Loewman has been connected with Andrews Steel Co., Newport, Ky., as industrial relations manager.

Irving Gus William W. Webb has been appointed assistant chief of air staff for training, succeeding Maj. Gen. Robert W. Harper, retired, commandant General Webb was chief of staff of the AAF Training Command before taking over his new assignment.

William F. Avery, assistant secretary of the B. F. Goodrich Co., since 1936, was elected secretary of the



A. A. Kacher

company at a meeting of the board of directors. Avery succeeds the late **Stetson M. Bell**. The company's patent and legal departments will be under his direction.

A. A. Kacher, director of research of Bendix Aviation Corp., and chairman of its long-range planning committee, has been elected a vice-president. Kacher is head of the corporation's control research laboratories in Detroit and has charge of investigating and developing new product activities. Bendix joining Bendix in 1932, Kacher was with General Motors Corp.

F. A. Dorn, executive secretary of the National Association of Shipbuilders, is resigning as general chairman of United Air Lines' employee suggestion movement to increase industrial engineering work at Cleveland. **H. W. Farnham**, formerly office manager at United Personnel Department, succeeds him.

Newly elected vice-president and treasurer of Lonsdale Aircraft Corp., Tinton, N. J., is **Leopold H. P. Klotz**. He was also elected a director of the company, former



Leopold H. P. Klotz

manufacturer of all-metal light airplanes for private owners and Civil Air Patrol operations. At present the company is building metal chassis for the Grumman "Avenger" and "Wildcat." Klotz has been a private pilot for more than 35 years.

Officers of All American Aviation were re-elected for the coming year at the firm's annual meeting at Willington, Del. They are: **Hubert E. Ruckley**, president; **Harry E. Bologner**, vice-president, traffic; **Charles W. Wacker**, vice-president-treasurer; **Edward E. Niman, Jr.**, vice-president-manufacturing and development; **Arnold M. Zimmervann**, secretary and general counsel; **Frank J. Trolene**, Jr., assistant secretary; **Henry S. Fries**, assistant treasurer; and **Walter C. Gebelick**, comptroller.

The election of officers for 1946 was presided over by a meeting at which the directors themselves were elected by stockholders. Directors are: **Ruckley**, **Charles F. Bessant**, **W. Sam Carpenter III**, **Frank M. Donahue**, **Mrs. Pauline C. du Pont**, and **Charles W. Wacker** of Wilmington, and **Arthur W. Davis**, **George E. Lennan** and **David Tension** of New York City.

Lloyd Col. Ward Eides of the Army Air Forces, formerly chief pilot of the eastern division of Pennsylvania-Central Airlines, has been assigned to Bolivia as the U. S. military air attaché. He already has taken up his new duties. Eides came into Army service, Col. Eides had charge of PCA's military transport overseas operations.

Rae Campbell, Jr., has been appointed managing manager of the Lockheed Aircraft Corp., to replace **Edward W. Cleary**, who resigned early in the year. In the late 1930's Campbell was a vice-president of the Ryan Aeronautical Co. and, as aviation secretary of the San Diego Chapter of Commerce and Veterans work in developing airport facilities for that city. He later became part owner of the Barnes-Campbell advertising agency until he joined Lockheed in 1942. Campbell has been manager of the publications and art divisions of the advertising and public relations department.

Roger R. Smith has been appointed chief counsel of Lockheed Aircraft Corp., filling the vacancy created by the recent death of **H. C. Toland**. He joined Lockheed in 1931. **Paul Stock, Jr.**, was named assistant chief counsel. Stock has been with Lockheed since 1942.

To the Airlines of the World

To the operators of commercial aviation equipment throughout the world Titeflex makes a practice pledge—a pledge for continued research and development in solving your particular problems of electrical shielding of ignition and supplementary electrical wiring. We further pledge maintenance service—both sales and engineering—in our commercial air line centers—for the time and money of our personnel will not then be so entirely devoted to the needs of the Army and Navy Air Forces.

The Commercial airplane of peace will be equipped with more new and reliable electronic devices. These—along with higher frequency audio communication and landing equipment—will demand shockproof efficient shielding of ignition and auxiliary electrical wiring. War-time research in Titeflex has developed the Unshielded Ignition Lead and Amcon Conduit to promote this efficiency in shielding. They are new and will be in perfect, available to the air line operator.

You are the future of Aviation. Your task in wartime has been prodigious, since you have had so much to do, and so little new equipment with which to do it. With new equipment—with an abundant potential public, your future horizon should be limitless. While we have tried to provide specialized service to you—even during the war—when Peace comes, our engineers will go still further in individualized research to solve your specialized problems.



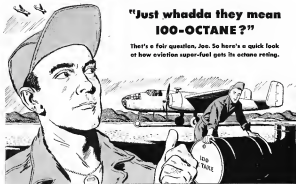
ROBERT E. BROWN, President

TITEFLEX, INC., 501 Philadelphia Ave., Newark 1, N. J.



"Just whadda they mean 100-OCTANE?"

That's a fair question, Joe. So here's a quick look at how aviation super-fuel gets its octane rating.



Octane number is a measure of a gasoline's resistance to detonation or knocking. The first valuable compression testing engine for determining aviation gasoline's octane number was developed by Standard of California in 1924. Gasoline was fed into this engine alternately with a mixture of two liquids called heptane (low anti-knock value) and iso-octane (high anti-knock value). If the gasoline made the testing engine knock with the same intensity as, for instance, a mixture of 25% heptane and 75% iso-octane, an octane number was 75. If it had matched the anti-knock performance of pure iso-octane, it would have been 100-octane gasoline.

Nevertheless, anti-knock requirements of aviation engines are so vastly different that the old rating method won't work. So, California Research Corporation, a subsidiary of Standard of California, developed the apparatus you see above. Devices are still secret, but in Standard laboratories it has helped to perfect 100-octane gasoline—and enabled our scientists to unleash new power for aircraft engines. And, used in daily refinery runs, it helps keep the quality of Standard Aviation Gasoline sky-high—the way Ryan everywhere have learned to expect it.



STANDARD OF CALIFORNIA



FINANCIAL

Broad Rise in Aircrafts Reflects Underlying Strength of Industry

Virtually entire list moves ahead for substantial and sustained gains, sparked by \$50 million Douglas order.

Refinement time has now elapsed to advance that recent low points of this year. The high mark, generally established early in the year, is also indicated for the separate issues. It can be seen that in addition is the strength in Douglas, Consolidated-Vulco, Grumman, Lockheed, Martin, North American, Republic, Sperry and United Aircraft have all sustained their previous highs for the year.

This technical action is very encouraging to chartists and similar market observers. The most astounding market gains being set to Douglas but to Republic. From its low of 314, Republic has virtually doubled its price to reach the most impressive market performance presentation. As revealed in AVIATION NEWS for Sept. 16, 1944, this company is in excellent financial position, having net working capital in excess of \$2.36 per share as of June 30, 1944. The company's war production continues at a high level and the management is known to be contemplating ventures in the commercial field.

Grumman—Douglas has been outdistanced in the marketplace by this another contender—Grumman. From a low of 31, Grumman led \$14 for the remarkable appreciation of more than 90 percent. This aircraft builder has extensive Navy contracts to help meet the needs of the Pacific campaign. A

relatively small capitalization—only 300,000 shares outstanding—makes for wide swings in the marketplace and is sensitive to any pertinent developments. Book value per common share was \$33.22 Dec. 31, 1943. Earnings for last year were \$1.62 per share, including \$1.35 for post-war tax refunds. Included was \$4.43 per share representing provision for post-war adjustments. While profits for 1944 are expected to be below that of last year, earning power will nevertheless remain at a high level for the immediate future and can easily satisfy existing market questions.

Consolidated-Vulco has established a net appreciation of around 45 percent. It is noteworthy that in this recent market move, although gains were recorded by United Aircraft, Sperry and Bendix, they were not of the spectacular type. Thus is no adverse reflection of the companies involved. On the contrary, these units have greater stability of operations and have established more of an investment standing. As recent news items have revealed price declines in much better fashion than most aircrafts and hence had less ground to recover.

Market observers have noted that keen speculators and investors have been accumulating aircraft shares earlier this year while the public panicked and are now beginning to reap their reward. How much further and how soon the current aircraft rally will carry is subject to conjecture. The progress of the war, post-war conversion problems and a host of other uncertainties along with general market conditions will determine future success. However, it is evident, however, that no longer are aircraft shares being recklessly liquidated in the marketplace.

Lockheed—This aircraft builder has been outdistanced in the marketplace by this another contender—Grumman. From a low of 31, Grumman led \$14 for the remarkable appreciation of more than 90 percent. This aircraft builder has extensive Navy contracts to help meet the needs of the Pacific campaign. A

Financial Report

Piper Aircraft Corp. directors have voted an initial dividend of 12 1/2 cents a common share, payable Oct. 15, to stock of record Oct. 10. Dividends have been paid regularly on the preferred. As of Aug. 31, there were 371,624 common outstanding and 17,144 preferred. The stock price is convertible into common at the ratio of 100 common to one preferred.

SEMIWEEKLY 1944 MARKET ACTION LEADING AIRCRAFT STOCKS

	1944	High to Date 1944	Low to Date 1944	1944
Bell	100	100	100	100
Bendix	100	100	100	100
Boeing	100	100	100	100
Consolidated	100	100	100	100
Curtis-Wright	100	100	100	100
Grumman	100	100	100	100
Lockheed	100	100	100	100
North American	100	100	100	100
Sperry	100	100	100	100
United Aircraft	100	100	100	100
Raytheon	100	100	100	100
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Sperry	100	100	100	100
United Aircraft	100	100	100	100
Bendix	100	100	100	100
Raytheon	100	100	100	100
Consolidated	100	100	100	100
Lockheed	100	100	100	100
North American	100	100	100	100
Sperry	100	100	100	100
United Aircraft	100	100	100	100
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Raytheon	100	100	100	100
Consolidated	100	100	100	100
Lockheed	100	100	100	100
North American	100	100	100	100
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United Aircraft	100	100	100	100
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Consolidated	100	100	100	100
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United Aircraft	100	100	100	100
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Raytheon	100	100	100	100
Consolidated	100	100	100	100
Lockheed	100	100	100	100
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Sperry	100	100	100	100
United Aircraft	100	100	100	100
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Lockheed	100	100	100	100
North American	100	100	100	100
Sperry	100	100	100	100
United Aircraft	100	100	100	100
Bendix	100	100	100	100
Raytheon	100	100	100	100
Consolidated	100	100	100	100
Lockheed	100	100	100	

The Economic Reconstruction of Europe

THE time is fast approaching when allied and enemy populations alike will demand a blueprint for the economic reconstruction of Europe. The peace plan following this World War will be written, passed, and by experts, at a series of continuing conferences, such as Hot Springs, Bretton Woods, Dumbarton Oaks and Quebec, each tracing a new pattern for negotiation and each dealing with a single, specific problem. In the drawing of these plans, the United States, as owner of more than half of the world's industrial capacity, controller of the only great credit reservoir, and possessor of the largest force of highly skilled technicians and management engineers, has heavy responsibilities which its industrial, financial, agricultural and labor leaders cannot evade.

Just what is the problem which the world's business leaders must help solve in Europe? The best safeguard of peace is economic opportunity—a good chance for all peoples to raise their standard of living by their own industry, foresight and industry.

Frustrated and disappointed peoples, who view the future with misgiving rather than hope, breed fanatical demagogues who seek to divert nations from their ill-starred disappointments by promising military glory and conquest.

Consequently, an important step in building a secure and lasting peace is to open the doors of opportunity to the peoples of Europe.

The gravest obstacle to opportunity in Europe has been economic nationalism.

The economic tradition of the Continent always has been highly nationalistic. The national feeling generated by the first World War and the political autonomy conferred upon many peoples by the peace treaties, led to a great growth of economic restrictions. This trend was accentuated by the depression and by the military plans of the Fascists and Nazis. Hitler had to show his people they could be fed even if a blockade was imposed upon them. The inevitable result of these influences was to carry self-sufficiency to tragic extremes.

Economic nationalism holds down the standard of living of Europe in two ways:

1. It prevents the rise in most European countries of lowest mass production.
2. It operates against an efficient geographical division of labor, preventing nations from doing what each can do best.

Great machines require great markets. One great machine of which the United States has many and Europe few is the continuous strip steel mill. At the outbreak of the war we had twenty-eight such mills of various sizes, England but one, and Continental Europe one. A building containing one of these machines is more than a quarter of a mile long and the minimum cost of the mill is almost \$25,000,000. Only the prospect of a mass market justifies production on this vast, but highly economic basis.

The wasteful geographical distribution of production is shown by the agricultural policies of Italy, France and Germany.

In the 1930's, wheat sold for less than 4¢ a lb. in the United States, a cost 32¢ a lb. in Germany. In Italy and Germany imports of wheat were banned and its production at home was heavily subsidized. By the middle of the 1930's, wheat sold for \$1.55 a bushel in France, \$1.97 in Czechoslovakia, \$2.25 in Germany, and \$1.41 in Italy. At the same time the United States and the other efficient world producers and exporters (Canada, Australia and Argentina) were restricting production and were unable to average more than about 75¢ a bushel for their wheat.

Economic unity in Europe must ultimately mean a freedom to trade not greatly different from what we have within the United States. Given economic unity and the large markets which go with it, efficient mass production will develop. With Europe receiving cheap supplies of such staple foods as wheat, pork, land and dried fruits from overseas, European farmers can prosper by specializing in producing farm foods—butter, cheese, eggs, fruits, vegetables.

Then European agriculture will be more prosperous producing its specialties, and our agriculture (and that of the other great efficient surplus-producing continents as well) will have greatly expanded markets for our staples.

With a cheaper food supply for Europe—yet one yielding a better price for our agriculture—European labor will live better. Labor now used economically for agricultural production will be released for industry. With big machines and semi-automatic processes European labor can produce more steel, automobiles, furnaces, plumbing and electrical appliances to advance its standard of living. In coming decades, as the United States has done in past decades.

A rising standard of living in Europe will bring

Europeans to view peace with optimism and hope. And world trade grows as confidence and prosperity widen.

How would a Europe which possesses economic unity appear to us on this side of the Atlantic?

It would be a prosperous Europe that would have strength in its advancing industries, but as the single great agricultural deficit area of the world, it would be dependent upon overseas supplies for vital agricultural staples. This dependence upon overseas agricultural supplies would be greatest for industrial Germany. Some people believe that a strong Europe would be a threat to world peace. More important, however, is the fact that a strong and prosperous Europe would not be a frustrated Europe. It would have found a way to achieve a rising standard of living. Furthermore, a prosperous Europe would, economically, be a dependent Europe because, although the European industrial worker would use more and cheaper food, he would have it only as long as he consumed the peace.

A prosperous Europe would be of special advantage to American agriculture (if we do not keep on prying ourselves out of the market) and of great advantage to American industry.

The British policy of buying agricultural staples from abroad, for example, made her, a nation of only 45,000,000, the purchaser, in 1937, of \$256,940,000 of all kinds of agricultural products from the United States. In the same year the rest of Europe (exclusive of Russia), with a population of 325,000,000 purchased only \$300,000,000 of our agricultural products. But with more sensible organization of its agriculture, Europe could be expected to buy more than one billion dollars of agricultural products from us.

By far the greatest market for an expanded European industry will be Europe itself.

For American industry, there will be growing markets in Europe as an industry expands. Experience shows that the trade between different highly industrialized areas is large. This country's biggest export markets have been with its nearest competitors—Britain, Canada, Japan, France and Germany.

Before the war, Europe, with two and one-half times the population of the United States, had only one-sixth as many automobiles.

If Europe (exclusive of Britain and Russia) were to increase production, it would need 15,000,000 automobiles. With normal depreciation this would ultimately mean 10,000,000 cars to be produced annually to replace worn out cars.

If one still wonders about the immense number of things Europe might produce for herself, let him calculate the highway expenditures, the filling and repair station businesses that must be equipped and maintained; and the doubling of the steel production that would be required to make the automobiles themselves and to reinforce with steel over a moderate amount of additional concrete highways.

Another example is the electrification of Europe. With two and one-half times our population Europe's

consumption of electrical energy would be 135 million electrical H.P., if the European worker were to have the advantage of as many H.P. as the American. Yet, just prior to the war, Europe's installed operating capacity was only about 40 per cent of this figure.

What has been sketched for Europe is actually much more nearly a page from the economic history of the United States than it is mere prophecy about a desirable future for a Europe at peace. But how can it be achieved? And what is our part to be in helping to bring it about?

Economic unity can be provided for the seventeen states of Western Europe by the peace treaty or treaties adopted at the end of the war. The provisions for securing economic unity in Europe should specifically cover:

1. Substantial freedom for persons and enterprises to do business anywhere in Europe.
2. Reasonably free movement throughout Europe of persons for employment, recreation and education.
3. Greatly increased freedom of trade.
4. Within Europe—through the stipulations of a European trade union or group bought from overseas. This would set for generally lower levels on manufactured goods, and for the removal (after a reasonable period of progressive reduction) of tariffs on all agricultural, handicraft and most industrial raw materials.
5. A special currency program requiring an early to provide complete currency stabilization for all countries of Western Europe, and for the rest of the world.
6. Creation of an agency (with adequate resources) through which all Europe-wide business and other affairs affected by these agreements would be administered for a minimum period of twenty-five years.

This would permit the economic unity of Europe to be substantially achieved. During this period, assistance in administering the provisions would be given by officials of the United Nations.

Near the end of such a period arrangements could be made for a vote in the European countries on whether or not to continue the "unification program." If the vote were in the negative, the United Nations would have proper warning that additional safeguards would be necessary to prevent war.

The suggestions made in this statement aim at securing economic unification of Europe and thereby promoting the possibilities of permanent peace in Europe.

The realization of these possibilities throughout the postwar years requires a freely expressed public opinion in Europe to guide all who share the responsibility for bringing peace to Europe and to the world.

James H. McGraw, Jr.

President McGraw-Hill Publishing Company, Inc.

COMPAR MEETS the triple threat in spraying **HOT DOPE**



Photo courtesy of R. H. Smith Co., Inc.

DURING "hot dope" applications, Resistoflex spray hose" is called upon to ward off a triple threat: (1) the corrosive action of the solvent it must carry (2) the heat of the solvent (3) the erosion caused by the flow of hot corrosive solvent through the hose.

Resistoflex has won wide acceptance as a solution maintenance shop's "hot dope" spray hose because compar—the heart of the Resistoflex hose—meets the triple threat of corrosion, heat and erosion.

With a different formulation of the compar tube, Resistoflex hose is also used extensively as fuel, lubrication and hydraulic lines; carrying high-octane gasoline, oil and hydraulic fluids without ever swelling, rotting or sloughing off.

In still another form, compar has been fashioned into safety clothing. Compar gloves, caps, smocks, aprons, etc., have been designed to protect those who work with toxic organic solvents against skin disorders.

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TRANSPORT

Newest Orders for Airliners Puts Backlog at \$100 Million

National reports contract for 16 Curtiss-Wright CW-20 Commandos, to cost \$3,000,000, and Eastern announces allocation of \$25,000,000 on two contracts for CW-20's and DC-4's.

By MERLIN MICKEL

Post-war equipment orders placed in the last few days by three additional airlines for both four- and two-engine planes of a size beyond anything now in commercial service have approximately doubled in volume and value the first large orders estimated at \$3,000,000, placed less than a month ago.

A new type was included in the big planes on the books for post-war delivery with two commitments for Curtiss-Wright CW-20 Commandos, whose manufacturers claim they are the largest two-engine transport in the world.

► **Douglas Backlog**—Hawthorne post-war orders for four-engine Douglas planes had been the only ones announced. The Douglas backlog was swollen by the new orders, which included 24 DC-7's, price unspecified, on which Pan American Airways has made initial payment.

Reports from the West Coast indicate that another international carrier—American Export Airlines—also is thinking about buying new planes. The line's vice-president in charge of operations, D. G. Richardson, visited plane plants there and is said to be interested in Douglas DC-6's and DC-7's.

Prototype of the military version of the DC-7 is being built, although the commercial counterpart is not yet in the construction stage.

► **National Orders**—16 CW-20's—One order for 16 CW-20's, to cost \$3,000,000, came from National Airlines, which last week started its run between the South and New York. The other, for an unspecified number of CW-20's, was from Eastern Air Lines, which announced simultaneously that it also is ordering DC-4's and has assigned \$25,000,000 to both contracts.

With last month's order for \$50,000,000 worth of DC-4's and DC-6's by American Airlines, Panagra

and United Air Lines, and Pennsylvania-Continental subsequently \$10,000,000 for 15 DC-4's, the new announcements put post-war commercial transport plane orders to a total probably around 200 units and well over \$100,000,000. Accuracy of these estimates depends, of course, on cost of Pan American's DC-7's and the number of planes Eastern is getting for its \$25,000,000.

► **More to Come**—Further purchase announcements may be forthcoming soon. United said in placing its original order for 15 DC-4's and 30 DC-6's that it expected soon to contract for 25 more of the latter. TWA has yet to announce specific plans for purchase of Lockheed Constellation, and PCA is reported to be thinking about those ships in addition to DC-4's. Other lines, particularly the smaller ones, are biding their time until they see what route expansion the Civil Aeronautics Board allows them.

Announcement of the CW-20 orders, while made by the airlines,

gives an inkling of the type of market at which Curtiss-Wright is aiming. Eastern described the plane, commercial version of the military C-46 Commando transport, as developed "to meet a definite demand for larger payload with greater reliability and reduced operating costs in the 300-700 mile range, which accounts for over 10 percent of the total over-all commercial air travel in this country."

► **Cyclone Engines**—In commercial service, the ships will be equipped with 18-cylinder Wright Cyclone engines of the type now used in the Boeing B-24 Superfortress, the Lockheed C-54 Constellation, and Martin Mars. The C-46's use Pratt & Whitney 2600's.

With the new engines and Curtiss-Wright's main entry into the post-war field, becomes an all Curtiss-Wright product.

Eastern hopes the Commandos, which will carry 24 to 40 passengers at a cruising speed of 350 mph, will be put in operation by the fall of 1946, the soon permitting, and the DC-4's "as soon thereafter as possible." The line has two years' experience with Commandos for the Air Transport Command in the Caribbean. It reports 16 million miles of operation, much over water, including the Caribbean and the South Atlantic between South America and Africa, and adds that no scheduled flight was missed because of weather conditions. The C-46 is even better known for its regular runs over the "hump" between India and China.

► **Eastern's Contracts**—Eastern an-



Curtiss-Wright's Bid for Post-War Market: This new picture shows the C-46 Commando, military version of the CW-20 commercial transport with which Curtiss-Wright is making its entry into the post-war airline market. Orders for the CW-20 have been received from National Airlines and Eastern Air Lines. Commandos are produced at Buffalo, Louisiana and St. Louis, and serve with the AAF, NATS, ATC and Marine. Elimination of cowcatcher panel in favor of the natural sited flaps (foreground) is said to increase load capacity 75 to 100 pounds and give more speed by streamlining drag due to panel's rough surface.

nounced the signing of a contract by its president, Capt. Eddie Robertson, and G. W. Vaughan, president of Curtiss-Wright Corp., but some EAL sources and the agreement was based on options, and actual contract for delivery has not been signed. This would account for the failure to disclose the number of planes purchased.

The company says the new equipment will make possible a quadrupling of its plane mileage in a three-year period under a domestic and international expansion program—about half its overall five-year expansion plan.

A heavy expansion program in Latin America figures in Pan American's announcement that it will buy 26 DC-7s. Made at a press conference on the eve of the carrier's appearance in the Latin American route bearing new pre-training before a Civil Aeronautics Board examiner, it was the first disclosure by an airline of plans to purchase these big planes.

100-Passenger Planes — Pan American expects the ships to carry 100 or more passengers, though Gates in making capacity have been reported previously at 60 to 90 seated passengers or 90 in berths. As planned the four-engine DC-7 would have a 4,300-mile range. Gross takeoff weight would be 150,000 pounds, or more than twice that of the DC-4 (C-54). Douglas believes the first of the DC-7s could be turned out about a year after announcement is given to build.

Two other types are under consideration by PAA. One is a deeper version of the Constellation, and another an advanced two-engine type high wing monoplane for local service carrying 75 passengers.

Pan American is not planning regular all-cargo service, pending further experiments with this type of operation. The press conference, which coincided with Robertson's announcement of new plane purchases, was held in Washington by J. Cleverly Hoag, vice-president and treasurer, and Henry J. Forester, general counsel.

Pan American announced last August it was ordering four-engine planes, the larger of which would carry 100 passengers to "the most distant South American capitals," and the smaller 60 passengers to intermediate points, both to fly in the sub-stratosphere at more than 300 mph., in an operation expected to make possible reduction in passenger fares and crew costs.

Meanwhile reports from the



Eastern Orders — "Commander" Eastern Air Lines ordered last week a fleet of four of the new four-engine Curtiss CW-30 Constellation as part of a \$25,000,000 purchase program that also includes four-engine Douglas DC-7s. Capt. Eddie Robertson, EAL president, here examines a model of the Curtiss transport plane with G. W. Vaughan, president of Curtiss-Wright Corp.

West Coast indicate that another international carrier — American Export Airlines—also is thinking about acquiring new planes. The line's vice-president in charge of operations, D. G. Robertson, visited plane plants there and it is said to be interested particularly in the Douglas DC-6.

Survey of Argentine Air Potential Made

Department of Commerce statisticians, who have been working to determine potential air cargo between the United States and Latin-America, report the balance of our trade with the Argentine is preponderantly export.

Using 1938 export and import data, the experts calculated for that year a total trade with Argentina of \$129,166,871, of which \$19,693,121 was export and \$206,548,748 was import for domestic consumption.

Of this total, commodities suitable for air shipment amounted to \$9,878,776 (exports) and \$2,866,128 (imports). Economists point to this 4-1 disparity as a possible "deterrent" to extensive air cargo service, but suggest that Argentine products which did not form articles of trade in 1938 might develop into items suitable for air transportation.

Airline Revenues Off for Fiscal 1944

Operating net drops to \$27,138,848 from \$10,650,089 for previous 12 months.

Despite expanded passenger operations, net operating revenues of 14 domestic airlines (including All American Airlines and Hawaiian Airlines, Ltd.) dropped to \$27,138,848 for the year ended June 30, 1944, compared with a net operating revenue of \$30,463,069 for the 1943 period, according to Civil Aeronautics Board statistics.

This figure, however, is not an entirely accurate reflection of the over-the-counter business done by the domestic carriers. Total operating revenues during the 1944 period were \$134,369,523 compared with \$113,328,609 in the 1943 period.

Freight Expense Off—Chief reason for the drop in net operating revenue may be found in a decrease in freight and expense handled—3,721,503 pounds in the 1944 fiscal year as against 4,626,353 pounds for the 1943 period—and an increase in general administrative expense from \$5,734,358 in 1943 to \$15,740,942 in 1944.

Freight operations have been restricted to accommodate passenger requirements. Substantial improvements in the situation can be looked for after the line acquires new planes.

Administrative Costs Up—Rise in general administrative expense represents a trend which may be expected to continue as the domestic lines prepare to march back into a competitive economy and to expand their operations into the international field.

Evidence that airlines are focusing efforts toward serving the huge passenger traffic potential is plain from CAA's figures which show that, during fiscal 1944, passenger revenues climbed to \$35,479,708 against 1943's \$18,267,076.

First Fatal Accident

All American Aviation, Inc., only U. S. pack-up operator, had its first fatal accident at State College, Pa., recently, in an estimated 2,800,000 lbs. in scheduled service and 200,000 pickups.

The wing of a pickup plane struck a tree on a second circuit of the field. The pilot, Wilson Scott, was killed and the cargo handler injured.

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EAL Abandons Fight For So. America Lines

Rickenbacker reveals company's plan to concentrate on proposed New Orleans-Texas-Mexico and Miami-Tampa-New Orleans-Hab routes

By DANIEL S. WENTZ II

Eastern Air Lines' President E. V. Rickenbacker dropped a blockbuster in the Civil Aeronautics Board's Latin-American hearing last week when he revealed on the witness stand his line was abandoning its extensive South American applications to concentrate on its proposed New Orleans-Texas-Mexico and Miami-Tampa-New Orleans-Hab routes. The company earlier abandoned any plans for the North Atlantic.

Reading from a prepared statement which had not reached opposing attorneys until late the previous night, Rickenbacker said the about-face was prompted by what Eastern considered as "immediate public duty" in improving and extending "the Latin-American services which it has been rendering for many years" through Routes 3 and 4 and other parts of its south-south system.

■ **Attacked.** The unexpected abandonment in the nature of Eastern's

case brought sharp and immediate attacks from counsel for other applicants and a rebuke from Assistant Chief Examiner Francis W. Brown, who pronounced Eastern's tactics "highly unfortunate." Requests for a day's adjournment to consider Rickenbacker's case in the light of the abandonment were refused by the examiner.

Much of Rickenbacker's prepared statement consisted of a general criticism of Pan American Airways.

"No company, so fortified by monopoly, and gorged with opportunity," he declared, "could fail to lapse into complacency."

■ **Annals Ship Lines.** Under questioning, Rickenbacker charged that shipwreck lines in the Latin-American trade have never given adequate service, and would, if permitted to operate airlines, "swindle" a new and rapidly growing industry of trade between the Americas.

In view of this double-headed attack, some observers pointed out that his proposition to cooperate closely with Pan Am, jointly owned by Pan American and W. R. Grace & Co., was rather anomalous. After a long exposition of past relations between the co-owners of Panagra, Rickenbacker said his company's intention was to provide a link between Balboa and the U. S. through which traffic

could be forwarded to and from the Panagra system without dependence on Pan American. This statement prompted close questioning by various counsel, which revealed that, although the payable purchase by Eastern of W. R. Grace & Co.'s share in Panagra had been discussed by Grace and Eastern, the latter was not interested.

■ **Routes Requested.** As Rickenbacker's case now stands, it is a general application for routes between Miami, Tampa, New Orleans and the Canal Zone via Havana, Kingston (Jamaica) and Barranquilla (Colombia), and an extension of AM 3 to Tampa and Mexico City from New Orleans and from Houston, Brownsville and Corpus Christi.

■ **Keep Feet Wet.** Eastern's Pan American was scheduled to begin its presentation immediately following Rickenbacker, with its vice president and treasurer, R. C. Roper, as first witness. Pan American's applications in this proceeding, while they do not ask to serve any points not already on the company's system, represent a comprehensive effort to obtain such system in the face of threatened competition.

The applications, however, are not entirely of a defensive nature, if granted they could mean considerable improvement in air transportation in Latin America.

Company witnesses are expected to treat in detail President Juan Trippe's projected plans for passenger rates as low as 35 cents per mile and cargo service which proposes low-mile charges averaging 25 cents. These officials say their plans for all-cargo service are still undeveloped and point to imbalances of trade between U. S. and Latin America as chief reason for moving warily in opening all-cargo operations.

■ **High Costs Stressed.** Pan American is also expected to make a thorough demonstration of the high costs of installing navigational aids on routes which may be authorized in South America. The distinction between opening a new route in the U. S. where airway facilities are provided by the Government, and a route in Latin America, where the airline authority is required to install the requisite facilities at its own expense, is an important one and Pan American is expected to place considerable stress on it.

Some industry sources believe this cost item is the chief reason behind Rickenbacker's abandonment of his South American applications.

PAA Asks 4 More Atlantic Terminals

Seeks right to serve Boston, Chicago and Detroit, and Baltimore as permanent port of entry instead of alternate for New York in bad weather.

Pan American Airways, in a move that is both a reversal of past company policy and a request for a change in the government position, has asked Civil Aeronautics Board to designate Baltimore, Boston, Chicago and Detroit as termini for its trans-Atlantic operations.

American Export Airlines, only other U. S. flag international carrier, previously asked the Board for the right to serve Chicago, Washington, New York and Boston in co-termini.

■ **Caution Breaking Points.** Both carriers are confronted with an established policy of the Post Office Department, carried over from the administration of the Civil Aeronautics Act, which favored international carriers to recognize coastlines as breaking points for air routes.

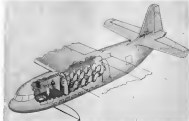
Pan American has not hitherto asked the right to serve interior points, except for its application to replace Brownsville with Houston as terminals for its Mexican operation.

Many observers believe CAB's decision in the current proceeding will end the old distinction between international and domestic carriers. They point out that the concept is outworn and a deterrent to fullest development of international transport operations.

■ **Asks Access to Points of Origin.** Pan American makes it plain it is not seeking the right to engage in domestic air transportation. Its application is designed to secure access to points of origin for international passenger and cargo business. The carrier is faced with possible competition from several domestic airlines wanting international routes. Therefore it is asking to reach these interior traffic generating centers to protect its position.

Until now, Baltimore has been a Pan American alternate to New York for use in bad weather. The company now requests that it be made a permanent port of entry. Detroit and Chicago, under PAA plans, would be interior points of origin for traffic on the North Atlantic route to Europe.

Pan American proposes to re-



PROPOSED PLANE WITH PICKUP EQUIPMENT

This view of the plane proposed by the *Feeder Airlines Association* for local-feeder-pickup service shows it adapted to passenger and pickup. Six seats have been removed, the movable bulkhead carried back, and pickup equipment installed. The equipment depicted has been discussed by PAA's technical committee as a possible variation of the present type used by All American Airlines, which has the window on the floor. The drawing by Don Severa, executive director, shows an overhead type, with the window traveling on a track to permit easier handling of mail or cargo. A mail container stands in the corner.

place Shediac with Montreal as its Canadian port of call on the trans-Atlantic service.

The application specifically seeks these additional authorizations as an amendment to its latest present North Atlantic certificate.

New Air Classes

Stanford University last week opened a free war training course in commercial air transportation under the U. S. Office of Education, and Texas A. & M. College will open an airport and fixed base management class.

The Stanford course is given at the request of commercial airlines to train personnel in air transportation management, airline operation, maintenance and inspection.

■ **Started at NYU.** The first such course was given in 1943 at New York University College of Engineering at the request of personnel of airlines at LaGuardia Airport.

University of Texas is enrolling about 22 students in the free air transportation course.



PAN AMERICAN WINS AAF AWARD:

Pan American Airways has been awarded an Army Air Forces Service Certificate for four years of traveling AAF pilots in aircraft companies. Picture shows presentation at Hines week, left to right, Maj. Gen. James H. Brown, AAF training section commandant in Miami; Maj. Gen. Walter F. Kinn, commanding general of the AAF Central Flying Training Command; W. G. Snyder, manager of PAA's Latin-American division; Capt. Carl Drancy, director, and Charles J. Lane, former director of the airline's navigation section.



DRAFT FEEDER PLANE SPECIFICATIONS:

Specifications for a local service feeder plane, as shown on the cover of this week's *NTWS*, were drawn by the group shown here at a recent meeting at St. Louis. Members of the technical committee of the *Feeder Airlines Association*, they are, left to right, Don Severa, executive director; Oliver L. Parks, committee chairman; Halley B. Bailey, president of All American Airlines; Eugene B. Scroggie, Ryan School of Aeronautics; Haynes H. Otto, Ohio Aeronautic Corp.; and Col. Herbert Fay, Southern Airlines Corp.

CAB Names 20-Man Tax Study Panel

Personnel of group includes close working relationship between airlines and state regulatory and assessment bodies.

Prospects for a closer working relationship between airlines and state and local regulatory and taxing bodies are seen in the personnel of the twenty-man panel appointed by Civil Aeronautics Board to advise on the multiple taxation study now in progress.

The committee is under chairmanship of CAB Member Oswald Rynn. United States airlines are well represented by officers of three domestic and one international carrier.

Membership—Other members of the panel are drawn from authorities on state and local taxation, Federalistic relations and public fiscal policy.

Following are the Board's appointees:

Danville Pierce, secretary, California State Board of Equalization, Bay Bridge, president of the National Association of Tax Administrators, Bay Bridge, Treasury Department, J. C. Collins, vice-president, Mid-Continent Airlines, John C. Gough, vice-president, Pan American Airways, Anne Culbert, vice-president, American Airlines; Harold Groves, chairman, Department of Revenue, U. S. Treasury; J. W. J. Jones, Fiscal Division, Bureau of the Budget; J. M. Labovitz, Bureau of the Budget (alternate to J. W. J. Jones); R. G. Leitch, treasurer PCA, Edward Logan, director of the Budget, Commu-



SIGN FOR PCA DC-6'S

Principal in the recent signing by Pan American-Central Airlines of a \$28,666,000 contract for 15 Douglas DC-6's were Donald Douglas (left), president of Douglas Aircraft, and C. Beidel Moore, president of PCA. J. R. Carmichael (standing), PCA vice-president, went with Moore to Santa Monica for the occasion.

nity of Pennsylvania; James W. Martin, president of companies and director of the Bureau of Business Research; Joseph McQuinn, controller, City of New York; Louis Nease, chairman, Michigan State Tax Commission; Al Norman, executive secretary, National Association of Assessing Officers; Carl Sheep, professor of economics, California University; A. H. Stone, chairman, Mississippi State Tax Commission; George Weisen, executive secretary, National Association of Assessing Officers; Harold Welch, Bureau of Internal Revenue; David L. Behrke, president, Air Line Pilot's Association.

U. K. First Choice

First choice of this country's air travelers for their post-war international journey is a trip to the British Isles, according to answers to an American Airlines questionnaire. Preference for the U. S. Flag line was virtually 300 percent. Second choice for foreign travel was Continental Europe, then the other American lines, Mexico and Scandinavia.

Eighty-four percent said visiting recently made no difference to them. Of those to whom it was important, 56 percent expressed preference for 21-postwar plans, 34 for pre-war plans and 11 for 1939-1940 plans.

the present right of way, which serves the airport and cuts through city-owned land, for that further west.

Expanded Facilities—As a result, airlines will be able to expand their facilities without having to cross the main highway from San Francisco to peninsula points. Included are Pan American Airways, which owns a land base in addition to its \$4,000,000 airport lease; United Air Lines, now cramped for space; Western Air Lines, and TWA. Mutual Navigation Co. has announced plans to construct an air terminal at the airport.

ATC Terminates Domestic Contracts

Two-thirds of airlines already have ended special operations and remainder are expected to close by Nov. 1.

Airlines doing domestic flying for the Air Transport Command have been notified of termination of their contracts. About two-thirds already have ended these operations.

Several extensions have been granted, however, to ease the return to commercial operation, and it is expected that a few still will be in effect until Nov. 1. Overseas contracts continue.

One of the latest terminations reported involves the contract with Mid-Continental Airlines, whose military transport division operated a cargo route through the Midwest from Minneapolis to Dayton via Chicago, Dayton to Kansas City via Indianapolis, and Kansas City to San Antonio via Omaha, Kansas City, Topeka, Selma, Wichita, Oklahoma City and Dallas.

ACA Operations—MCA estimates that since it began the route May 18, 1945, about 16,700,000 pounds of war goods have been carried 6 1/2 billion pound-miles in addition to cargo, 8,500 military passengers were carried. Operations was 92.4 percent of scheduled mileage during the last six months of operation.

Mid-Continent expects the experience it gained with the C-49 in ATC work to help it when it receives three Douglas DC-7's now at the Douglas factory for reconversion. Mid-Continent already has used Lockheed on its commercial runs. Pilots used in the DC-7 flights will be used in the DC-6's, of which the C-49 is a military cargo version.

Alaskan Air Carriers Report New High in Passenger Operations

Total of 83,825 carried for 12 months ended June 30, 1944, is put at nearly 23 times figure for like 1930 period; freight poundage lowest since 1937 fiscal year.

New records for passenger traffic were established by Alaskan air carriers during the last fiscal year. Number of passengers carried jumped to an all-time annual high of 83,823, which was nearly 23 times greater than the figure shown during the year ended June 30, 1930. Passenger-miles flown found a new peak at 12,865,134. This was more than 17 times the number of passenger-miles flown in for the 1930 fiscal year.

While pounds of mail and goods of freight flown were not new records, they nevertheless were substantial figures. Pounds of mail flown in the territory totaled 932,801, which was the highest for any year with the exception of the 1943 fiscal period, when a 1,604,637 pounds of mail were flown.

Freight Paradox—Pounds of freight flown during the year ended June 30, 1944, amounted to 2,542,055. This was the lowest since the year ended June 30, 1937, when 2,947,720 pounds were flown. The record freight traffic was for the twelve months ended June 30, 1941, when 4,947,558 pounds were moved.

June 28 yearly totals of Alaskan aircraft operations are shown in the accompanying tabulation.

Operations of the Alaskan airlines for the year ended June 30, 1944, are discussed in a report of the Alaskan Aeronautics and Communications Commission. The report has been transmitted to the governor of Alaska by the supervisor of the Commission.

Not only do the Alaskan traffic figures give an indication of the increased volume of business that now is expected in the post-war period, but the comments of the Alaskan Commission accompanying the report likewise are impressive.

Open Alaska as Hub—"Post-war planning places Alaska as the hub of world aviation operations," says the report. "The great circle routes to Manila, Hong Kong, Calcutta, Bombay, and Tokyo are by way of Alaska. Technical developments predict a large volume of post-war peacetime flying in addition to expansion of commercial air transportation facilities. We have every

reason to expect an astronomical future for Alaska."

According to the report, over 28 radio telephone stations have been installed and operated for a year at less than half the cost of the title of the Alaska Military Highway. Efforts are being made by the Commission to get 60 additional complete stations to install in various isolated communities. Further, efforts are being made to purchase all private stations similar to those of the Commission, and to control additional stations now operated by other offices.

Communications Looking—"Private stations are increased to individuals or communities. Approximately 850 communities have no communication. Only 230 communities have post-offices. Since the majority of the stations do not operate at a profit, the only measure of success can be attributed to the wholehearted cooperation of these agencies and individuals who have given freely of their

Year ended June 30	Pass. Carried	Pass. Miles	Freight Pounds	Passenger Miles
1930	3,670	624,864	1,070	65,443
1931	7,147	1,241,016	2,000	128,000
1932	10,800	1,812,176	4,000	244,800
1933	15,444	2,522,112	7,000	432,000
1934	20,444	3,362,112	10,000	576,000
1935	25,444	4,202,112	13,000	720,000
1936	30,444	5,042,112	16,000	864,000
1937	35,444	5,882,112	19,000	1,008,000
1938	40,444	6,722,112	22,000	1,152,000
1939	45,444	7,562,112	25,000	1,296,000
1940	50,444	8,402,112	28,000	1,440,000
1941	55,444	9,242,112	31,000	1,584,000
1942	60,444	10,082,112	34,000	1,728,000
1943	65,444	10,922,112	37,000	1,872,000
1944	83,823	12,865,134	2,542,055	2,112,000

*Source: Federal Office of Aeronautics and Civil Aviation
*Based on Calendar Years

time without compensation. The forwarding of communication to every community is a priority matter that could be carried through the installation of inexpensive low and medium powered stations supported by the community."

The report points out that there are approximately 900 miles of railroads and 3,000 miles of vehicular roads serving an area of about 893,000 square miles. "Air transportation is serving as the most logical solution for the lack of other methods of travel," according to the report.

"Plans operate to and from communities that have no other communication with the outside world than occasional mail during the summer months. The vastness of the area served, weather conditions prevalent in northern climates, communication difficulties



STRAW SPREADER FOR DUSTY AIRPORTS.

U. S. Army Engineers at Sacramento call this straw spreader for dusty, unimproved airports a "chickenfinger." Weighing five tons and powered by an automobile engine, the machine sheds bale straw and spreads it to a width of 25 feet, covering an area in 13 minutes at a cost of \$132. The straw is hauled into the soil to a depth of three or four inches



CAA'S NEW VISUAL WEATHER INDICATOR.

Civil Aeronautics Administration has developed a new weather indicator it claims is faster and easier to interpret than the usual teletype messages. Picture at left shows operator turning one of the rotary switches.

is, operated by runway traffic control center or weather bureau personnel. At right is the indicator as it is manually set; the light progress board at Washington National airport.

due to distance and lack of proper radio facilities, and economic problems have been a major problem to aircraft operators."

Frye Urges Airlines, Ships Share Trade

Division of foreign trade between airlines and surface carriers was urged by Jack Frye, TWA president, as he emphasized the necessity of developing foreign commerce before members of the San Francisco chapter of the Foreigner Club of the United States.



NORTHWEST'S BUFFET

Plus two-to-four buffet is being installed on Northwest Airlines' planes. Built of aluminum, it has a portable table and thermos jug which can provide a complete dinner in the air.

While suggesting that special in-flight meals be worked out to encourage foreign trade ventures, Mr. Frye declared the two transportation systems could operate profitably by sharing initial tasks and benefits.

Favors Airlines for Passengers.—All transoceanic passenger traffic will go to the airlines, he predicted, while increased cargo commitments will compensate surface shippers for loss of this revenue. Airlines will receive only such assignments as can be handled by air better and cheaper than other established forms of transportation, Mr. Frye said.

"The plane will be the tool for building up ship cargoes," he predicted. "The planes will get the orders and the ships will deliver the goods."

UAL Spans Pacific 1,500 Times for ATC

United Air Lines completing its 1,500th trans-Pacific flight for Air Transport Command, has flown about 11,000,000 miles over the 7,350-mile route between California, Hawaii and Australia since the operation began last in 1945.

The line has carried 36,000 passengers, 6,834,618 pounds of cargo and 6,830,312 pounds of mail, a total weight of 21,035,704 pounds, on these flights, which are separate from those United makes on its Alaskan run.

BC-34's Used.—Two daily round trips are being flown on the Pacific job, which employs a fleet of 20

Douglas C-54's. Average west-bound elapsed time from San Francisco to Townsville, Australia, via Honolulu, Canton Island, Tarawa, Guadalcanal and Port Moresby is 28 hours.

National Inaugurates New York Flights

National Airlines opened its New York service on Sunday, Oct. 1, with an inaugural flight from Miami to New York, with stops at Jacksonville and New York. Mayor La Guardia greeted the plane at La Guardia Field Sunday afternoon.

Thomas Foran, a National's regional manager at New York.

ATC Takes Over Unit

Training school phases of the air base at 5,350-acre Mather Field, near Sacramento, Calif., became a major unit of the Air Transport Command Oct. 1. Announcement was made recently that \$2,000,000 is to be spent on runways and other improvements to accommodate ATC transport planes, additional to the \$11,500,000 Army program already in progress. The line has been spent at Mather since the war began.

Pilot and cadet classes at the advanced flying school will complete their training there, although ATC is in charge of the field, but new classes originally slated for Mather will go to the Army air field near Douglas, Ariz.

Third House Group Studies Air Policy

Two members of five-man subcommittee of Post-War Economic Policy Committee are moving advocates of airship operation of airlines.

A third House group is studying the foreign air transportation policy of the United States. The five-man body, the Foreign Trade and Shipping Sub-Committee of the House Post-War Economic Policy Committee, has for two of its members staunch advocates of air-ship operation of airlines.

Members of the sub-committee, now studying post-war overseas trade, are Rep Eugene Worley (D., Tex.), chairman, Rep. Francis Walter (D., Pa.), Rep. John E. Fogarty (D., N. J.), Rep. Richard J. Welch (R., Calif.), and Rep. Charles A. Wolverton (R., N. J.). Welch is considered one of the strongest advocates in Congress of participation by shipping interests in overseas airlines, and is a member of the Merchant Marine and Fisheries Committee. Wolverton, member of the Interstate and Foreign Commerce Committee, is an advocate of railroad ownership of airlines.

Comprehensive Study Planned.—Chairman Worley says the study will include thorough investigation of the pros and cons of all proposals made to date for operations by domestic carriers, steamship companies or a "chosen instrument."

Pointing to the deadlock between the Merchant Marine and Fisheries Committee and the Interstate and Foreign Commerce Committee, Worley commented that "it may be well to have a disinterested committee of the House review the matter."

Worley said the sub-committee would file a formal report with the House, probably around the end of November. It will take a definite stand on the foreign air picture, he added.

CAB May Be Represented.—Vice Admiral Emory S. Land, of the Maritime Committee, already has spoken for steering air operations and Alaskan R. R., both, president of the American Federation of Shipping, says he will testify. Representatives of the Civil Aeronautics Board will be invited to appear, but airline spokesmen have not yet been requested to testify.



NEW AIRFIELD MAT:

This section of an airfield mat developed by Aluminex Co. of American weighs only half as much as a steel mat and can be carried by air or small cargo vessels into places inaccessible to heavy gear. The section, easily handled by one man, fit together by a slide or "bayonet" type of lock.

TWA Layover at L.A. Cut to 45 Minutes

Civil Aeronautics Board has limited to 45 minutes layovers at points within the U. S. on any airline flight if the certificate of the line operating the flight contains a restriction against originating or terminating such flight at that point on the carrier's route.

The regulation was issued after United Air Lines, in a complaint against TWA, alleged the latter was violating the terms of a certificate for AM 37, prohibiting local service between Los Angeles and San Francisco, by long layovers at Los Angeles.

Flight 15.—TWA's Flight 15, the object of United's complaint, originates at New York, arrives in Los Angeles at 3:24 P. M. It does not depart for San Francisco until 7:15 P. M. It was United's contention that this layover of one hour and 45 minutes constituted local service in violation of the terms of TWA's certificate designed to prevent such service. The certificate restricts TWA from serving San Francisco except on flights originating at Albuquerque or points east thereof.

The new CAB regulation, effective Nov. 1, will limit this layover at Los Angeles to a maximum of 45 minutes.

Other lines whose certificates contain restrictions to which the new ruling will apply are Braniff (AM 13, Denver-Pueblo segment), and Eastern (AM 5 and 8, Boston-New York and Birmingham-Atlanta segments).

Winter Schedules

The three trans-continental airlines will make their annual changeover to winter schedules Nov. 1. They are slower by an hour or two than summer trans-country flights. Winter schedules were adopted several years ago as a safety measure. They are maintained about six months. Summer schedules have been in effect this year since Apr. 26.

The longer flight times apply only on a trans-continental basis, and were agreed to by American Airlines, United Air Lines and TWA. Prevailing winds are slower in winter, and a more approach is more often necessary, and more frequent checks must be kept on weather conditions.

A Research Precedent

REALIZATION of the importance of continuing aeronautical research after the war is apparent in the aircraft industry. Most aircraft companies, if the government leaves them with sufficient funds after conflict termination, will designate sizable investment in research development departments to make best use of findings unearthed by government agencies such as NACA.

Boeing and Cessna aircraft companies, however, are not waiting for completion of all termination adjustments. Each has contributed \$100,000 toward establishing an independently-owned Wichita University an industrial research laboratory. Aircraft parts makers and other industries and business organizations have pledged at least \$300,000 more.

The foundation will undertake investigation of any industrial problem of major importance to local industry, whether in chemistry, physics, marketing, construction, metallurgy, electrical or other phase of engineering.

Teachers expect such inquiries to fall into two classes, those made to solve immediate problems of interest to individual companies, for which the foundation will receive fair compensation from the firms benefited, and those long-range projects that will increase regional industrial opportunities generally, cost of which will be borne by the foundation. Fellowships will be awarded to encourage scientific-minded youth to remain in Kansas where they are needed rather than move on to the East or Far West. The foundation may become effective as early as the first of the year.

That Boeing and Cessna make a commendable contribution to the future progress of their community, far out of proportion to the dollar expenditures, they increase local public confidence in their future, at the same time making possible establishment of a research staff which can complement their own departments.

Wright Aero's 25 Years

WHENRY AERONAUTICAL CORP. marks its 25th anniversary on October 3 as the world's largest manufacturer of aeronautical power plants. Although not incorporated until 1918, its history actually starts in 1900 when Orville and Wilbur Wright put together their own engine after discovering the best that manufacturers here and in Europe could offer weighed 35 pounds per horsepower. Their effort produced a four-cylinder, 12 hp engine weighing only 13 pounds per horsepower.

The response demanded incorporation by the Wright brothers of a million dollar company, predecessor of the present Wright Aeronautical Corp., now part of the even larger Curtiss-Wright Corp., turning out fighter and transport aircraft and propellers.

After a sharp contraction in the post-World War I era, the company again began expansion with output of its famous Whelanders, which powered Ryan and Bennett to the North Pole, the Atlantic flights of Lindbergh, Chamberlin, Riehart, Ryd, Balchen, Acosta, Marshall and Hagenberger flew Wright-

powered craft from California to Hawaii non-stop and Sir Charles Kingsford-Smith flew from California to Australia, Asia, Europe and over the North Atlantic to America. Ryd used Whelanders again in the Arctic flights and over the South Pole.

Later models such as the 12-cylinder, liquid-cooled, 600 hp Tornado appeared in 1925, and there were also engines built for dirigibles and boats. Others in the period were the Greengrass, and Challenger. The company built planes about 1920, including one which attained 260 mph in 1922. A year later at the Pulitzer Race two Wright Navy fighters won prizes and a Wright Apache biplane fighter broke all altitude records for aircraft.

A Wright Cyclone of 750 hp, about 1933 powered the famous Douglas DC-3, predecessor of the DC-2 and DC-4, and progress in commercial and service aviation has been rapid to today's Wright-powered Boeing Superfortress and Flying Fortress, the Martin Mars, Lockheed Constellation, and the Lockheed, Boeing, Douglas, Eastern's Wildcat, Avenger, Mitchell, and a long line of other battle planes which are winning the world's air war.

Wright Aeronautical by its technical development and production accomplishment, even through the terrible problems of critical shortages wartime experience, has lived up to the most distinguished name in aviation history.

To Aviation News Readers

FOR SEVERAL MONTHS the editorial staff of AVIATION NEWS has been sending questionnaires to selected subscribers asking their opinions of the magazine. According to McGraw-Hill research, the most valuable response has been far above the usual average rating for such magazines. The editorial staff thanks those readers who have taken time to fill out and return the forms, each of which has been studied by the editors.

It is gratifying that readers have expressed high praise for the news. They are proving they mean it because the number who have renewed their first year's subscription may be as much as 28 percent above the most optimistic advance estimates which were made by experienced circulation people.

Meanwhile, AVIATION NEWS is meeting its obligations to its readers with more improvements. Alexander McCauley, formerly Midwest editor at Dayton, has joined the main Washington staff as Private Flying Editor, and the Private Flying section, started recently with two pages each week, appears today with five pages. The new up-to-the-minute Industry Observer section appeared last week. More regular correspondents throughout the country are being added. Foreign writers will be contributing before long. An Engineering News Service was introduced several weeks ago, with a series on the prospect for jet propulsion and turbine power.

Further expansion in news service to the industry and aviation public will be added during the war. After Victory, AVIATION NEWS will be available at newsstands everywhere, and special editions and supplements are being studied for such news centers as London, Paris, Rio, Moscow, Sydney, and Chungking. ROBERT H. WOOD



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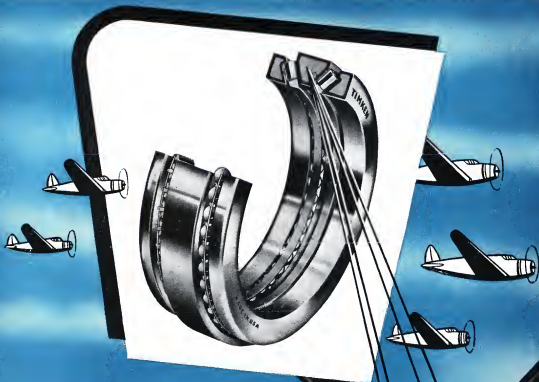
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